

Desert Storm: Battle

Two metaphors are suggested by the four days of concentrated ground attack that destroyed the forces of Saddam Hussein in southeastern Iraq and freed Kuwait. The first is that of J. F. C. Fuller's "Sea Warfare on Land":¹ the grand fleet maneuvering at sea, a picture of the disciplined movement in formation of great armored dreadnoughts (M1 Abrams tanks) and lethal but lightly armored battle cruisers (Bradley fighting vehicles) from which, as necessary, debouch B. H. Liddell Hart's "land-marines"² to clear trenches and built-up areas. Like destroyers and torpedo boats, Army attack helicopters concentrate rapidly and strike with deadly precision. Overhead, the skies, often dark and forbidding during the four-day ground operation, are clear of enemy planes and full of those of the coalition, striking both enemy concentrations and, increasingly, the retreating columns that clog the few routes out of the Kuwait-southeastern Iraq deathtrap. Behind the combat fleet toil the sea trains that carry the fuel and ammunition, in hundreds of thousands of tons, required to sustain the fighting fleet at range and to link it to its bases in the south.

The second metaphor is the relentless movement of the drill bit through the coal face. For though some of the first-line Iraqi forces did stand and fight, the Iraqi Army found itself no more effective in resistance than the coal vein that succumbs to the remorseless advance of the drill. Even when the Iraqis fought back, it did not matter in the context of the whole operation, and in the end, the American armed forces lost far fewer soldiers in the four-day ground battle than the Marine Corps did to a single terrorist bomb in Beirut in October 1983.

The enemy forces in the target area of the ground attack had been pounded by a sustained bombing effort that began within days of the initiation of hostilities on 17 January. At the same time, the theater of operations had been isolated by the attack of bridges over the Euphrates. A systematic attack of air defense systems in the KTO had rendered the Iraqi forces on the ground vulnerable to attack at will. Thus freed from interference and under the direction of General Schwarzkopf himself, coalition air forces had conducted an aerial campaign of attrition against Iraqi forces south of the Euphrates capable of interfering with planned operations.³ (See figure 30.)

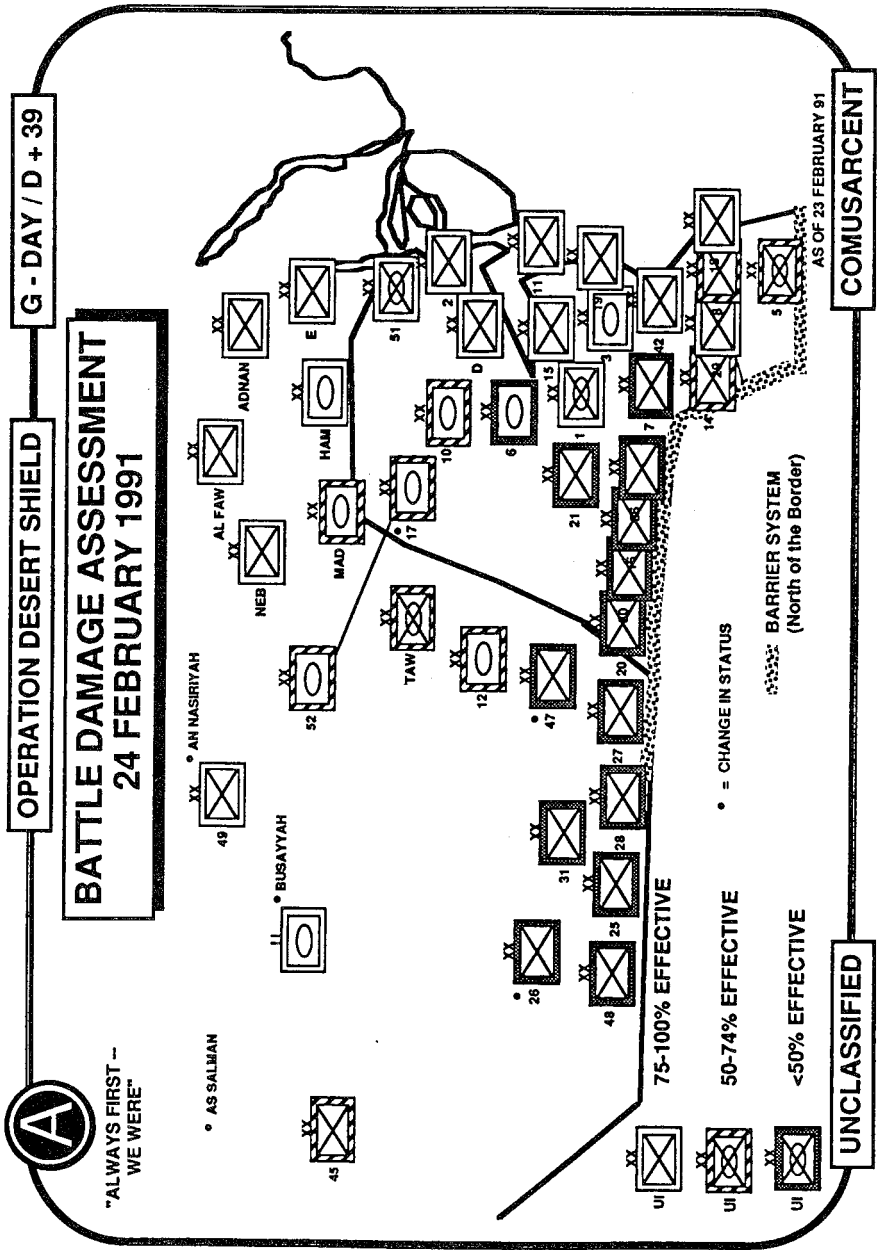


Figure 30.

One major element of AirLand Battle proved to be beyond the abilities of the Army and Air Forces engaged in Desert Storm. That was the execution of close interdiction by the Air Force in support of the Army's major operations, in particular the VII Corps' attack. The problems with this form of joint integration of forces had always been apparent. Indeed, the Air Force chief of staff, General Merrill McPeak, had addressed those problems years before.⁴ Peacetime exercises, however, tended to gloss over them in the name of interservice comity.

Two structural issues were inherent in the problem of air-ground coordination. The first had to do with control. Air interdiction is controlled by the Air Force commander because it takes place beyond the range of ground systems. The Army talked of a category of aerial interdiction, battlefield air interdiction (BAI), that was to be flown to support the ground commander's scheme of maneuver. During the 1980s, the Air Force recognized BAI as a term addressing a subcategory of air interdiction but made no commitment to its place in the blue-suit hierarchy of targets. Air assets are allocated according to primary categories, and the air component commander decides what will be flown according to his priorities as a theater component commander. Because Air Force officers are not particularly knowledgeable about the conduct of ground operations, they are not inclined to allocate air assets to support ground maneuvers.

At the same time, the conduct of battlefield air interdiction assumes the ground commanders can locate their front line trace so their own forces are not attacked. The Army has long had a fire control measure, the fire support coordination line (FSCL), to accomplish this. The FSCL was intended to be a permissive fire measure; that is, the FSCL was supposed to be a line beyond which any force could fire without danger of hitting friendly maneuver forces. In Desert Storm, there were two problems with the FSCL concept. With the Army tactical missile system (ATACMS), the Army had a weapons system whose range permitted ground forces to fire beyond the FSCL, something the Air Force worried about given the density of planes in the airspace. And since ground forces were advancing, not withdrawing, the FSCL had to move with them. Senior ground commanders, who were dependent upon forward unit reporting through multiple command headquarters to stay informed, proved utterly incapable of reporting a reliable front line trace in a timely fashion. And, since the two services are, in fact, hierarchies joined at the top, which execute at the bottom, the information had to penetrate an Air Force operational information chain that took additional time

for it to reach shooters thus causing systemic delays. The attack on British armored vehicles by U.S. Air Force planes was a consequence of the information chain's inability to relay this kind of data rapidly.⁵

Ultimately, CENTCOM took over the setting of the FSCL and used it as a boundary, assigning all terrain on one side to the ground commanders and all terrain and airspace on the other to the air component commander. In the words of the Third Army deep fires after-action report: "The end result, ironically, was that the high level of success attained on the ground frequently led to a loss of air support, since bombers could no longer execute their mission, and because the mission manager didn't have the necessary lead time to successfully divert the mission to another target."⁶

The result was that there was an area beyond the forward line of troops in which only Army aviation could operate and into which Air Force planes could operate only while under Army control (close air support). There, the decentralized organization of Army aviation may have prevented full use of this asset by preventing operational concentration of ARCENT's aviation assets in front of VII Corps when it closed with the Republican Guard. It was not possible to shift XVIII Corps' attack helicopter assets to VII Corps for the very practical reason that the helicopters' operating range was limited and tied to fuel pods on the ground in their rear. Army aviation units were not provided with the logistic redundancy that permits flexible basing to allow response to fleeting opportunities. Ultimately, XVIII Corps' aviation brigades were committed to the control of the 101st Airborne Division northwest of Basrah. Even then, the 101st had difficulty accommodating the additional fuel requirements this entailed. The VII Corps would have been unable to sustain the XVIII Corps' attack helicopters without a major shifting of its resources across the Iraqi desert, and there is little reason to assume that this could have been accomplished easily or rapidly even if XVIII Corps had been willing to give up a major part of its combat power. That too was unlikely. In retrospect, the commitment of Army aviation beyond Basrah, where distinct water lines constituted the best available line of separation between the ground and air interdiction, was a poor solution. The Air Force capabilities, combining J-STARS observation with sophisticated attack tools, would seem likely to have been much more effective. VII Corps was unable to employ Air Force battlefield air interdiction as a blocking force in support of its maneuver units or maintain continuous interdiction with its own aviation brigade (the 11th). Indeed, because of its lack of control over the FSCL, it could not always interdict targets within range.⁷

The VII Corps attack on 24 February was less like the deep rapier thrusts of Guderian or Rommel and more like the "integral operations" dreamed of by the great von Schlieffen, in which the importance of individual battles was subordinated to the logic of "an integrated and continuous movement, war as uninterrupted forward motion,"⁸ an inexorable advance of irresistible destructive power.

H-hour was 0400, 24 February. The weather on the border was mostly cloudy with rain showers of some violence in the early morning. Due to blowing sand, visibility decreased from crystal clarity at dawn to as little as 200 meters during the day. Patches of fog were also reported, and winds were from the southeast, gusting to twenty-five knots.⁹ BMNT (beginning morning nautical twilight) was at 0531 the 24th; BENT (beginning evening nautical twilight) at 1824.¹⁰

The French 6th Light Armored Division, reinforced by a brigade of the 82d Airborne Division, was the main attack of the XVIII Corps. The French advanced at 0400 the morning of the 24th to "open the ball." Prior to the attack, the French had seized the lip of the escarpment that lies just across the Saudi border in Iraq. Their objective was to advance to As Salman (Objective White) to free the east-west lateral road, MSR Virginia, upon which the corps intended to accomplish the movement of the fuel and ammunition necessary to sustain the larger 24th Infantry Division (Mech) and the adjacent 3d Armored Cavalry Regiment attacks to the Euphrates valley (anticipated for G+1). This would be accomplished while the engineers opened more direct combat trails to the rear. The French confronted the largest enemy concentration in the southern half of the XVIII Corps sector and captured over 300 prisoners on G-day.

The elite 82d Airborne Division, perhaps the best light infantry in the U.S. Army and the first vital commitment of American prestige in August the previous year, was relegated, by the nature of desert warfare, to providing the French with additional infantry forces and then following its more mobile sister units, cleaning up and securing by-passed pockets of enemy resistance. This role was not particularly glamorous, and it did not get a lot of interest from CNN, but it was essential, and the soldiers of the 82d performed their tasks with characteristic discipline and good humor.¹¹

Midway between the two flanks, the 101st Airborne Division, using its unique air mobility, inserted two brigades by air on the 24th and built up a forward operating base (FOB) Cobra halfway to the Euphrates. From there, the Euphrates River valley and Highway 8 could be interdicted the first night of the ground war by the division's

attack helicopters. The air assault was unopposed, but an Iraqi battalion was located by troops of the 327th Infantry of the 1st Brigade. The Iraqi battalion, an element of the 49th Infantry Division, surrendered after coming under air and ground preparation fires.¹²

FOB Cobra permitted the launching of division and corps attack helicopters into the Euphrates valley eighty-five miles farther north. These movements were followed the next day (the 25th) by the division's third maneuver brigade. This cut that Iraqi line of withdrawal until a slower heavy ground force could cross the empty desert between the Saudi-Iraqi border and the enemy's principal line of retreat or reinforcement. The troopers of the 101st were on the river a full day before the arrival of the 24th Infantry Division and 3d Armored Cavalry. The range of their attack helicopters put enemy forces north and south of the river in jeopardy and, once the Iraqis broke, they could interdict Iraqis who escaped west out of Basrah.

The G-day air assault by the 101st to establish FOB Cobra was scheduled to begin simultaneously with the attack of the French 6th. The assault had to be delayed, however, until 0730 because of a fierce rainstorm followed by ground fog in the objective area.¹³ A ground column, organized by the 1st Brigade under the command of the brigade executive officer, Lieutenant Colonel Jim McCarity, moved forward at 0700 and began arriving at FOB Cobra that afternoon. The combat element of the column consisted of thirty HMMWVs with TOWs, two artillery batteries, one infantry company, and two helicopter scout-attack teams. The column contained 2,000 soldiers in 700 vehicles and carried, among other things, 100,000 gallons of aviation fuel across a desert track called the Darb al Haj.¹⁴ It was unopposed on its march to Cobra and was slowed only by the abysmal weather, which muddled the desert track.

The attack all across the theater front was enormously successful that morning, as the Iraqi infantry divisions, whose principal function had been to identify the location of the coalition main attack and to delay it until successively larger mobile reserves might be committed, declined the role of cannon fodder and surrendered in large numbers—not just to the forces of XVIII Corps but to the Marines breaching Iraqi defenses in the east and the attack by the Arab-Islamic Joint Forces Command East on the coast.

By 0840 on the 24th, Schwarzkopf, spurred by reports of Iraqi demolitions in Kuwait City, called Yeosock and asked his views on scrapping the plan's time schedule and attacking early with the heavy forces.¹⁵ (See figure 31.) Yeosock first called his corps commanders and

then replied to Schwarzkopf that it was possible. The artillery of the 1st Infantry Division would be in position to begin VII Corps' breaching operation at 1230.¹⁶ General Rhame wanted to begin the attack at 1300.¹⁷ Schwarzkopf delayed the heavy force attack until 1500 so that the Arab-Islamic Joint Forces Command North could attack simultaneously with the Third Army's heavy forces. At 1430, the 1st Infantry Division fired its preparation, using the division artilleries of two divisions and three reinforcing brigades. At 1500, the breaching operation began. The "Great Wheel" was under way.

At Third Army, the G3 Plans section made up a final time line to project the battle now being joined through to the time of anticipated contact with the Republican Guard Forces Command. The chart is indicative of how the army commander saw the battle developing. It forecast the 24th Division seizing Objectives Brown, Gray, and Red and dominating MSR Virginia-Phase Line Smash by around H+35 (1500 on the 25th); the 1st U.K. Armored Division defeating a brigade of the Iraqi 12th (actually the 52d) Armored Division between H+35 and H+41 (1500-2100 on the 25th); and the 2d Armored Cavalry moving forward of Phase Line Smash at the same time. Based upon this success, Third Army anticipated Schwarzkopf releasing the 1st Cavalry Division in time to move by H+41. Yeosock expected the VII Corps to be prepared to close with the Republican Guard about 1500 on the 26th, with the 24th Division attacking a logistics complex at Juwarin at the same time. Based on this schedule, the 1st Cavalry Division would close into an assembly area north of the barrier belt (Lee) by 1900 that night (the 25th).¹⁸ Using this measure of progress and a knowledge of events on the ground, Yeosock would feel the army was ahead of schedule for most of the attack.¹⁹ Schwarzkopf, perhaps with urging from his superiors, would not share this view.²⁰ (See figure 32.)

The 1st Division scouts crossed the border at 0507 on the 24th, with the division's 1st and 2d Brigades crossing their lines of departure at 0545 en route to their final assault positions.²¹ The brigades collected many Iraqi prisoners on the way, as did all forces for the remainder of the war and even thereafter. The division fired its artillery preparation at 1430 and began to breach at 1500.

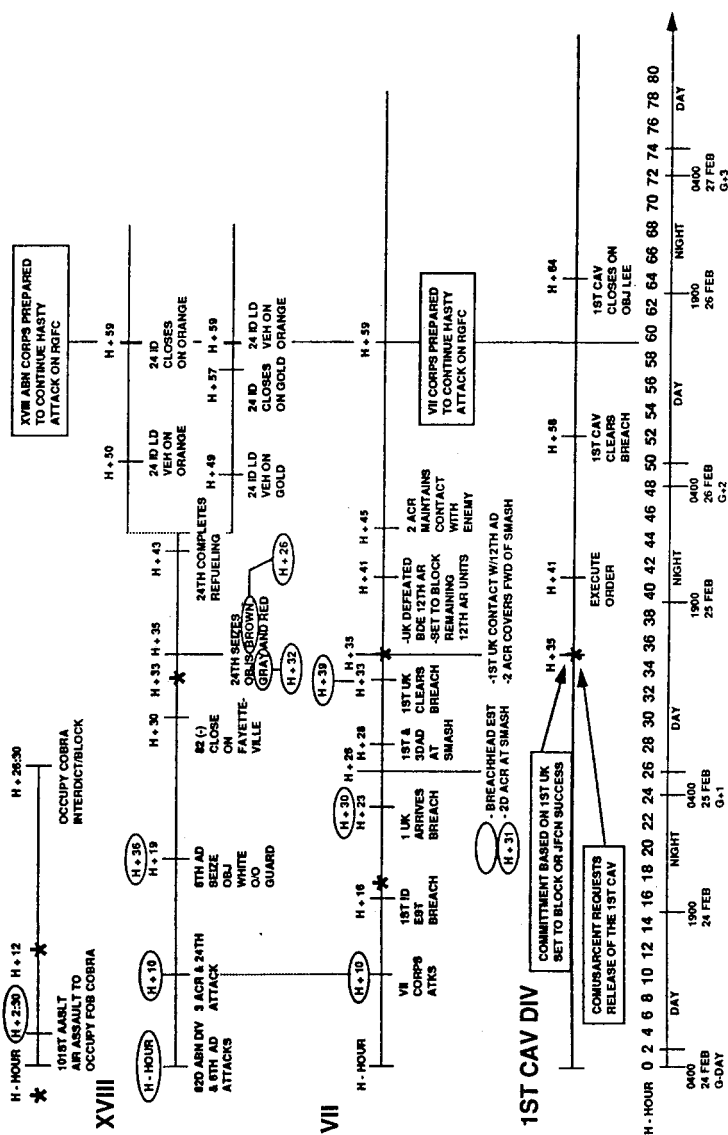
The Iraqis had apparently slipped their 26th Infantry Division to the southwest to extend their defensive lines farther to the west than expected, but even so, the Iraqi forces were widely dispersed, and the barrier system proved inadequate. According to VII Corps' battlefield reconstruction (based largely on enemy prisoner of war [EPW] interviews), the brigades of the Iraqi division were stretched along the

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OPERATION DESERT STORM

PHASE II

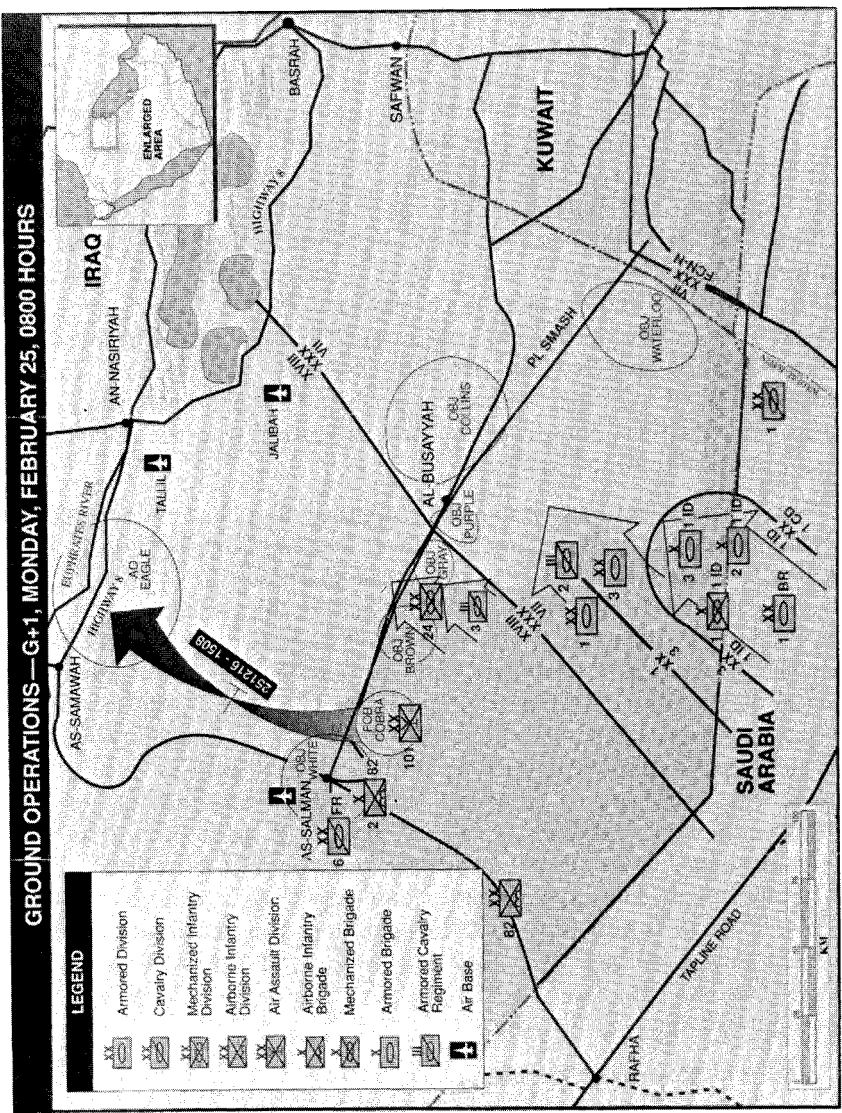
* DECISION POINTS



front and out of supporting distance from their reserve to the rear. The 26th was now to be overrun by the U.S. 1st Infantry Division and enveloped by the corps' iron fist. The corps' G2 report goes on to say of the adjacent (eastward) 48th Division's 807th Brigade (in front of the 1st ID) that "It is probably the unluckiest unit in the Iraqi army. Its soldiers have been under air attack for 39 straight days."²² The 48th was reduced to about 50 percent from desertion, and its artillery was effectively silenced by the 1st Infantry Division's preparation and counterbattery fires. Nonetheless, the troops of the U.S. 1st Division did receive some scattered and ineffective artillery fire while passing the enemy barriers.

Both the Iraqis' (regular army) 12th and 52d Armored Divisions would begin repositioning the night of 24 February. The 12th moved to positions south of Al Busayyah, and the 52d shifted to shore up the first defensive echelon. The 52d (identified by ARCENT as the 12th) had suffered severe losses from the air and artillery preparation of the battlefield prior to G-day. Indeed, General Franks had directed that his staff make the 52d Armored Brigade "go away" and, consequently, it became known as the "go-away brigade." On G-day, it had only fifteen T-55 tanks and fifteen Russian-design infantry fighting vehicles (BMPs) remaining, the complement of two American companies.²³ One of the 52d Division's battalions would be destroyed with the 48th Infantry Division, which it supported. The remainder of its brigades would be attacked successively by the 1st U.K. Armored Division as it moved eastward through the Iraqi front-line rear areas.²⁴ (See map 8.)

By 1600, the U.S. 1st Infantry Division reported sixteen passage lanes clear at the breach site. By 1654, there were twenty-four. By nightfall, the division had secured its intermediate objective, Phase Line Colorado, a two-brigade semicircle that denied the enemy direct fire on the breachhead line. Franks met with the commanders of his leading formations, Rhame and Holder, to discuss options for the first night.²⁵ The 1st Infantry Division was now split by the enemy's defensive barriers. Its two lead brigades had cleared a number of lanes through the zone, but these still had to be proofed and marked, and exits and assembly areas within the breachhead, now in the dark, had to be organized. The division's third brigade, the 2d Armored Division (Forward) (a brigade-sized force) was still south of the defensive zone, as was the supporting artillery, four brigades worth (considering here the British division artillery as part of the parent division). The plan called for the third brigade to pass through the breach and attack straight ahead simultaneously as the two organic brigades rolled



Map 8.

outward to clear the final breachhead line, New Jersey. Once set there, beyond indirect fire range, the 1st U.K. Armored Division would pass through the breach and out of the breachhead line to attack the Iraqi tactical reserves. But a great many vehicles, almost three division equivalents when one considers the artillery brigades, would have to move through the passage points before that could happen.

For his part, Rhame had serious reservations about committing the 2d Armored Division (Forward) into the passage of the breachhead area and executing the attack to Phase Line New Jersey in the dark. The risks of fratricide—caused by compressing three brigades into the small area and executing a rapid attack in the dark—were high. Further, the brigade's ability to conduct night operations was unknown. The 2d Armored Division (Forward) was a Europe-based brigade that had joined the U.S.-based 1st Infantry Division only recently and had not had the opportunity to train in night breaching at the National Training Center as had the other divisional brigades. The leading brigades, although set on PL Colorado, were still receiving sporadic fire that would continue through the night. There was also a question of whether the 1st U.K. Armored Division would be ready to pass through the breach before noon the following day. Colonel Holder, leading the flanking force, expressed concern that the left wing would become vulnerable to counterattack if it advanced into the open while the right wing remained in place.

The consensus of the three commanders was that, at this point, with the enemy's response not yet clear, it was better to hold the 1st Infantry in place, set on PL Colorado, and complete the opening of the breachhead area the following morning rather than accepting the risk of being caught disorganized by an enemy counterattack in the dark. General Rhame has written that this decision was made in light of an offer made by him that morning that the U.S. 1st Division should conduct its attack even earlier (at 1300) and then push straight ahead, with the British following, making their turn east without conducting a deliberate passage of lines out of a set bridgehead line. The additional hours of daylight thus gained could have permitted the movement of all three maneuver brigades of the U.S. 1st Division into the breachhead. That option had been rejected, however, leading Rhame, at least, to conclude that his superiors were satisfied with the progress made to date and that there was no pressure to accept additional risks this early in the offensive. The attack was, after all, fifteen hours ahead of schedule.²⁶

That being the case and as the Egyptian Corps on VII Corps' right had not begun to breach the enemy positions to their front, Franks

made the decision to keep the corps' scheme of maneuver synchronized. He had over 8,000 tracked vehicles and more than three times that many wheeled vehicles to move through the breach and the forty-kilometer gap beyond. He intended to do so without offering the enemy an opportunity to catch his force strung out and disorganized. He would not advance his left, the 2d Armored Cavalry Regiment and two armored divisions, until the British division, which would protect his right flank, was through the breach and into the attack. The 2d Armored Cavalry would hold its position roughly on line with PL Colorado and the two armored divisions north of the Iraqi-Saudi border, some thirty kilometers behind. Local actions to identify enemy elements and keep them off balance would continue through the night.

Franks also wanted the breachhead area cleared in daylight to provide for security for the fleet of vulnerable support vehicles. Besides, all three commanders knew the time would not be wasted in any event. There was plenty to do to prepare to continue the attack the next day. Four brigade equivalents of artillery would be passed into the breachhead before advancing the breachhead line or passing through the 1st U.K. Armored Division and various support forces for the forward brigades. The emphasis in the field that first night was on maintaining the concentration and balance of the attacking force and preparing for a deliberate passage of lines by the two-brigade British division on the following day. Even if the forward line of troops remained stationary, the passage lanes were active all night, as more and more combat power was moved north of the barrier belt. Attack helicopters worked forward of the ground maneuver forces all along the corps front throughout the night. Still, for all his earlier insistence, a pause had been imposed upon Franks by circumstances and by the decision to perform the breach job "with precision and synchronization," with an eye on the objective of hitting the RGFC with a "massed closed fist."

There was another indication, too, of the high sensitivity to the possibility of fratricide that night. As the 3d Armored Division advanced, it discovered an enemy unit between it and the 1st Infantry Division. Rather than risk an incident where the flank units of the two divisions might shoot at each other, Franks imposed a five-kilometer buffer zone between the units, notwithstanding the enemy within, and required the troops of the 3d Armored Division to withdraw from contact.²⁷

On VII Corps' left, the 3d Armored Cavalry and the 24th Division, kept on their steady and generally unopposed advance to the Euphrates. The division was commanded by Major General Barry

McCaffrey, Third Army's most driven and perhaps most aggressive commander. McCaffrey was a genuine war hero who had been severely wounded in Vietnam. Now, his division, with its attachments, contained no less than 1,800 tracked vehicles, including 249 M-1A1 tanks, 218 Bradley fighting vehicles, and 843 older M-113 armored personnel carriers. It also had about 6,500 wheeled vehicles and ninety helicopters, eighteen of which were AH-64 Apaches. The division was supported by ninety 155-mm howitzers, twenty-four 8-inch howitzers, and thirty-six multiple launch rocket systems (MLRS).²⁸ The 24th stopped for fuel in early evening and then resumed the advance in order to be in position to launch attacks on its objectives along MSR Virginia-Phase Line Smash early the following morning.²⁹ In the center of the XVIII Corps zone, by the end of the day, the 101st Airborne had the bulk of two brigades, their direct support artillery, and a good bit of the support command at FOB Cobra.

The 1st Cavalry Division continued to conduct demonstrations in the Ruqi pocket during the 24th and 25th. These maneuvers appear to have been successful. The Iraqi concentration of forces in front of Wadi al Batin was substantial in contrast to the forces deployed farther west.

By the night of 24 February, both Schwarzkopf and Yeosock were well satisfied with the events of the day. At Third Army, Yeosock acquiesced in VII Corps' decision, reported by the ARCENT liaison officer, to hold the advance and concentrate on getting the 1st U.K. through. Looking toward the decisive battle with the RGFC, Yeosock instructed Arnold to examine using XVIII Corps to fix the Hammurabi Division before VII Corps attacked the Tawakalna and Medina Divisions; he also instructed Arnold to destroy the artillery of the RGFC infantry divisions (in the XVIII Corps' zone) by fire. Yeosock's executive officer, Lieutenant Colonel Mike Kendall, a laconic and unusually circumspect and precise infantry officer, recorded Yeosock's closing comment: "The intent, is to have XVIII Corps fix forces to allow VII Corps to maneuver against the RGFC divisions."³⁰ In his memoir, Schwarzkopf recalls: "That night, about twenty hours into the ground war, I went to bed contented."³¹

He did not remain so. A gap had begun to open between the tactical operations Franks was fighting in the field and the operation Schwarzkopf envisioned in the basement of the Ministry of Defense. The commander in chief had gone to bed anticipating continuous movement of the forward line of troops in VII Corps throughout the night—particularly of the armored fist. When he went to his map in the morning and found them still in place, he blew up and called

Yeosock.³² Yeosock, it seems, weathered the storm, explained the intentions for the day, and very likely—sympathetic with Franks' practical problems—underestimated the depth of the CINC's frustration. In the morning general officer meeting at Third Army, General Arnold reported to Yeosock that Schwarzkopf had imposed a limit of advance on the 24th Infantry Division (which would keep it from descending into the Euphrates valley). Arnold expected VII Corps to close on Objective Collins that day and continue with a hasty attack on the RGFC.³³

Yeosock instructed Arnold to tell VII Corps that the CINC's intent was "continuous progress, no lulls."³⁴ Otherwise, Franks was not made aware of Schwarzkopf's displeasure. Both Franks and Yeosock continued to believe that all was well as the VII Corps advance resumed at 0530 that morning, and reports of increasing contact came in through the day. Unfortunately, at the same time, a gap continued to exist between success reported (or anticipated) and that achieved as reflected on Schwarzkopf's briefing map. Another gap would open between the progress of the 24th Division, as it advanced relentlessly over extremely rough but largely empty terrain, and the supposedly slower progress of VII Corps' armored forces. This discrepancy would also become a source of irritation. During the 25th, while the CINC remained restless about the rate of operational success, Franks wrestled at the front with tactical possibilities in the sort of weather described most aptly by the British as "very dirty, indeed."

The ARCENT SITREP reported that morning (250300Z-0600 local) that the Iraqi 48th and 45th Infantry Divisions had been destroyed and that the VII and XVIII Corps had captured 3,000 prisoners. The G2 still expected the Iraqis, in extremis, to employ chemical weapons. Meanwhile, the anticipated time of passage for the 1st U.K. was given by Third Army as 0500Z (0800 local), with a completion time of 0900Z (1200 local). This proved to be very optimistic both as to start and completion times and, ultimately, quite wrong.³⁵

The error was introduced when the army liaison officer at the VII Corps tactical command post and a corps staff officer at the VII Corps main CP reported to the ARCENT mobile and main CPs respectively that passage would be completed by noon. Although the main CP was in receipt of a copy of the VII Corps FRAGO 138-91, which gave a start time of no later than 1200 local (which in fact was met) and a completion prior to the end of evening nautical twilight (which was not met), the duty officer at ARCENT seems to have continued to operate

on the original misimpression—which was duly reported as indicated to CENTCOM.³⁶ This sort of confusion should not be surprising in a scratch staff thrown together on short notice (both the VII Corps' staff officer and ARCENT LNO were augmentees); indeed, it is a characteristic example of the fog of war which, for all the Army's emphasis on training staff officers to value precise and correct information, has still not been removed. The problem of inaccurate staff reporting would later have painful consequences for both ARCENT and VII Corps.

The ARCENT SITREP also indicated that the French 6th Light Armored had taken its intermediate objective on the 24th (Objective Rochambeau) and would advance to As Salman on the 25th. The 101st reported that it had seized its forward operating base by 1039 on the 24th and had captured a battalion commander and his troops shortly thereafter. The division reported conducting limited air interdiction of Highway 8 during the night.³⁷ Arnold's cover note on the ARCENT SITREP the morning of the 25th observed: "FOCUS today at Army HQ is on gaining early release of 1st CAV and on delivering a modified version of CONPLAN 6 (Destruction of the RGFC) to the Corps."³⁸

On G-day, over to the right of the Arab-Islamic Joint Forces Command North, MARCENT had enjoyed significant success breaching what was supposed to have been an extraordinarily difficult barrier belt. At the last minute, MARCENT had decided to attack two divisions abreast.³⁹ The Army's "Tiger Brigade," commanded by Colonel John B. Sylvester, under tactical command of the 2d Marine Division for Operation Desert Storm, followed the 6th Marines through the left-hand breach starting at 1530 and entered the surreal landscape of Kuwait, where the burning oil fires and darkness at noon seem to have reminded every observer of hell itself. On G-day, the "Tiger Brigade" suffered one man killed when a light Military Police vehicle struck a mine after dark. One M1 tank struck a mine in the breach and lost some road wheels. No one in the tank was injured, and the tank was back in action within a day.⁴⁰

The Marines achieved their first day's objectives; in particular, the 1st Marine Division secured the Al Jabber airfield. The Marines would also repulse an attack by Iraqi armored forces advancing out of the smoke and haze of the Al Burgan oil fields on G + 1 and then secure the Kuwait City International Airport and, with the "Tiger Brigade," cut the main Kuwait City-Basrah highway, thus completing an inner encirclement of Iraqi forces in southeastern Kuwait. Like the VII Corps, the Marine advance stopped at night on G-day.⁴¹

Finally, on G-day, the Joint Forces Command East attacked and advanced along the coast according to schedule.

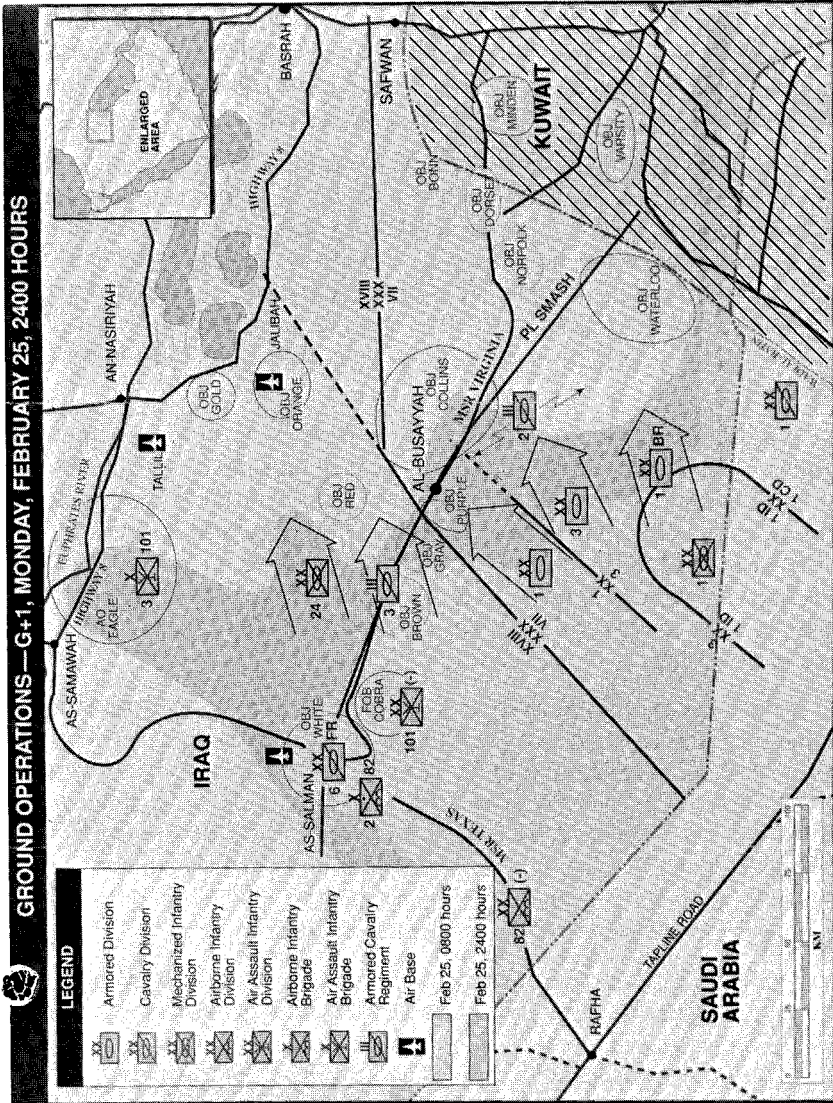
The next day, 25 February (G+1), proved to be the most deadly single day of the war for U.S. forces. (See map 9.) The war's costliest incident took place far from the direct-fire battles of the Iraqi desert. It occurred in Dhahran. At 2036 (local time), the only Scud missile to do significant damage in the Arabian Peninsula fell on the warehouse sheltering, among others, the 14th Quartermaster Detachment, a Reserve Component unit from Pennsylvania, only recently arrived in country.⁴² Twenty-eight soldiers were killed, and about one hundred were wounded. These losses were greater than those suffered by any combat division in the four days of ground battle.

Earlier on the 25th, however, successes had continued to pile up. The 101st Airborne Division inserted its 3d Brigade, commanded by Colonel Robert T. Clark, from its pre-G-day assembly area, all the way to the Euphrates valley, a distance of 155 miles (about 250 kilometers), thus cutting an Iraqi main line of withdrawal or reinforcement (though there was no evidence that the Iraqis intended to use it for either at this point). The 3d Brigade posed a threat just 145 miles from Baghdad.⁴³

The 3d Brigade accelerated its insertion to try and beat the weather, which was worse on G+1 than it had been the day before. The operation actually began on G-day with a program of reconnaissance to ensure the insertion would be unopposed. Scouts looked over the landing zones and vicinity, first from the air, then with forces on the ground, including motorcycle scouts. The weather was so bad that even motorcycle troops were mired. The assault itself took place on the 25th.

About noon, the 3d Brigade placed its heavy equipment (two artillery batteries, three antitank companies [forty-eight TOWs], two mounted rifle companies, and some engineer troops) on the ground in an area short of the river called Landing Zone (LZ) Sand, then moved the column overland to Area of Operations (AO) Eagle along Highway 8, arriving in spite of all but impassable muddy desert tracks early on the 26th. An intermediate landing site had to be used for heavy equipment due to weight-distance limits on helicopters.

At 1508, the first light infantry troops moved into AO Eagle using sixty-six UH-60 Blackhawks. A second lift was grounded by weather at FOB Cobra until the following morning. However, at 1640 on the 25th, "Screaming Eagles" of the 101st were in the Euphrates valley, while the 24th Infantry Division was reforming to the south along



Source: Brigadier General Robert Scates et al., *Certain Victory: The US Army in the Gulf War* (Washington, D.C.: Office of the Chief of Staff, 1993).

Map 9.

Phase Line Smash (MSR Virginia) to continue its advance to a linkup. By 2300, the highway was cut. Weather delayed the remainder of the personnel lifts until the following day.⁴⁴

The 24th Division had crossed the line of departure on the 24th with three brigades abreast and then shifted into a "V" formation with the 197th Brigade on the left, the 2d Brigade on the right, and the 1st Brigade following the 2d. The division began its attacks on positions dominating MSR Virginia (Phase Line Smash) at 0300 on the 25th, when Colonel Ted Reid's 197th Infantry Brigade (Mechanized) (Separate), from Fort Benning, Georgia (deployed as the 24th Division's third brigade), attacked Objective Brown. The brigade objective, apparently an air defense site, was secured by 1004. At 0848, the 197th had linked up with the 101st Airborne Division on the heavy brigade's left flank.⁴⁵

The other divisional units seized their objectives soon after. The 2d Brigade took Objective Grey on the MSR, and by 2150, the 1st Brigade, passing through the 2d, had seized Objective Red to protect the MSR to the north. The division then pulled its logistics tail in behind and began almost immediately to press on to the Euphrates.

The 197th Brigade prepared to continue the attack toward the Euphrates by 1600. By nightfall, engulfed in heavy rain, the 197th was 231 kilometers inside Iraq. After a second night's move, challenged by evil terrain and harsh weather, the 197th arrived in position to advance into the Euphrates valley the following day.⁴⁶ The limit of advance on the 24th Infantry Division had been lifted at 1800 the 25th.⁴⁷

The French 6th Light Armored Division on the left flank attacked at first light (0530) on 25 February and secured the airfield at As Salman, thus opening MSR Virginia in the west. It would require another day to obtain the surrender of forces blockaded in the nearby town.

The success enjoyed in XVIII Corps and the speed with which the engineers laid down their combat trails behind the 24th Division led to the corps' decision not to establish its first intermediate logistics base (Oscar) in the vicinity of As Salman but to jump directly to Log Base Romeo farther east.⁴⁸ Meanwhile, the 24th Division, for the most part refueled and reorganized, again took up its relentless advance now oriented on Objective Gold, the enemy logistics complex at Juwarin in the Euphrates valley.⁴⁹ Its drive across empty but difficult terrain, in the face of abysmal weather and pitch darkness, opened a gap between

XVIII Corps and VII Corps that would be painfully apparent on briefing charts at CENTCOM and JCS.

On 25 February, the VII Corps "Wheel" moved inexorably onward. The Iraqis began to react to the U.S. attack by forming a defensive line, consisting of a brigade of the RGFC Adnan Infantry Division, the Tawakalna Mechanized Division, two brigades of the 12th Armored Division, the 37th and 50th Brigades—assembled from southwest to northeast to confront the VII Corps envelopment.⁵⁰ Although the defenders seem to have grasped what was happening operationally, to the extent they took counteractions against it, they lacked the means of intelligence acquisition to detect the "drill bit" before they found themselves confronted tactically with overwhelming armored killing power. In addition, forced to move about above ground, mobile reserves found themselves exposed anew to attack from the air by rotary and fixed-wing aircraft; they were thus subjected to further losses before they came into position to fight the direct-fire battle.

As Yeosock had predicted, the Iraqis could move, but they could not maneuver. U.S. divisions, too, did little actual battle maneuver, if by that one means the execution of complex positioning of brigades and battalions for relative advantage on the battlefield. In the U.S. case, the low level of maneuver reflected a lack of need rather than a lack of training. Divisions moved forward with two or three heavy brigades on line and simply overwhelmed the hapless Iraqis by superiority of combat power at each successive point. U.S. brigades might be relieved from the rear, but they tended to be employed straight ahead.

Because of the density of forces presented at any point of conflict and the skill with which U.S. commanders prepared their battlefields with fires, there is to date but one story of a unit, even as small as a company, that was repulsed by the resistance it confronted.⁵¹ In the main, the Iraqis surrendered, or fought and were ground up. The Iraqi infantry surrendered in such numbers that prisoners proved to be an impediment to the advance, and many stories are told of Iraqis who were disarmed, provided with food and water, and waved on unaccompanied to the oncoming logistics elements in the rear.

On the VII Corps left, the 2d Armored Cavalry Regiment began its shift to an eastward track and uncovered the 1st Armored Division, which advanced north toward Objective Purple (Al Busayyah), an occupied logistics complex on the corps' left flank that constituted the outer corner of its multidivision turn.

The 1st AD was commanded by Major General Ron Griffith, quiet and systematic, perhaps the quintessential tanker, whose boxer's

visage reminds one of another premier tanker, the late General Creighton Abrams. Griffith clearly believed in balance and concentration. The 1st Armored Division, "Old Ironsides," began its advance at 0630 the morning of the 25th from a position twenty-nine kilometers inside Iraq. That day, the division advanced behind its own cavalry (1st Squadron, 1st Cavalry) screen on a two-brigade front of about twenty to thirty kilometers. Helicopters screened forward of the ground troops and detected enemy positions.

The division destroyed the reserve brigade of the Iraqi 26th Division between 1300 and 1700 and continued on to Objective Purple. It advanced 144 kilometers in sixteen hours of maneuver and combat, a cumulative rate of 9 kilometers an hour.⁵² While the ground elements fought with the Iraqi infantry and armored forces in front of them, the division's AH-64s went deep to begin attacking the forces to be fought in the next battle—the troops occupying Al Busayyah, a small desert town whose importance came from the Iraqi logistics site located there as well as from the XVIII Corps' desire for a track as an MSR to support follow-on actions of the 24th Infantry Division.

Because Al Busayyah was known to be an occupied, built-up area, Griffith decided to conduct a deliberate attack, preparing the objective by fire during the night of the 25th and 26th and then assaulting the next day rather than accepting the risk of heavy losses in a dismounted infantry attack in the dark. Griffith believed the logistics site was occupied by an Iraqi special forces battalion, an infantry battalion, and a tank company.⁵³ Al Busayyah had to be taken and cleared because its availability as an MSR would be compromised if occupying forces were left in place. Objective Purple would be taken the morning of the 26th during a continuous movement that would reorient the 1st Armored to the east as the left flank division of the corps' three-division maneuver mass.

The 2d Armored Cavalry, now in a movement to contact, oriented increasingly to the east in front of the 3d Armored Division and made its first contact with the Iraqi operational reserves at 0841 on the 25th. The 2d destroyed the defending brigade (the 50th Brigade of the 12th Armored Division) and moved on to the east until dark. The regiment, particularly the 3d Squadron, was in contact with enemy heavy forces, often in abysmal weather, from 0841 until 2100.⁵⁴ The regimental S2 estimated that the RGFC Tawakalna Division was located along the 65 Easting (a line of longitude), with a security zone of eight kilometers. The corps commander, visiting the regimental tactical operations center at 1530, ordered the regiment to maintain contact

and fix the RGFC, locate their flanks, and be prepared to pass the 1st Infantry Division through. The decisive ground battle had begun.⁵⁵

The 3d Armored Division followed the 2d Armored Cavalry and destroyed the various Iraqi units by-passed by the cavalry screen. At 1645 on the 25th, Franks visited the division command post and imparted his intentions for the attack against the RGFC shaping up for the 26th. According to notes from the 3d Armored Division commander's operational assistant, Major John Rosenberger, Franks called Yeosock to report on his situation and intentions and "stressed the importance of continuing the attack without pause given the lack of resistance encountered by 1st AD and 3d AD in zone." Franks indicated his intention was for the 1st AD to close with the RGFC Medina Armored Division, with the 3d AD to destroy the Tawakalna, then follow on by attacking what were believed to be the 52d and 17th Armored Divisions (actually the 12th and 10th). The U.S. 1st Infantry would pass through the 2d Armored Cavalry, and the corps would attack with three divisions abreast. The focus would be on the 1st and 3d Armored Divisions, which were clearly directed against the center of gravity of the RGFC, with the 1st ID on the right attacking parallel with the 1st and 3d Divisions toward Objective Norfolk and perhaps becoming an enveloping force if an opening developed.

These were instructions on a map. The manner of implementation became the subject of some disagreement between Major General Paul Funk, the 3d Armored Division commander, and the VII Corps staff once implementing orders began to be issued during the night. Specifically, Funk wanted more room to maneuver so he might attack with one brigade through a gap between the Medina and Tawakalna Divisions in front of him and then turn the brigade southeast behind the Iraqi line.⁵⁶ In short, he wanted to maneuver within his zone rather than participate as part of a corps phalanx rolling east shoulder to shoulder. The pressure of time and the density of corps forces precluded the change. The 3d Armored Division responded and was attacking by 0755 with two brigades abreast and the third in reserve. Later, the reserve brigade would pass through the left-hand brigade, break through and, in conjunction with the division attack helicopters, destroy the forces in the Iraqi rear.

The 1st Infantry Division completed exploitation of its breach by 1100 on the 25th and passed the 1st U.K. Armored Division through, starting at 1200. The British would break out of the breachhead at 1500 and begin to fight their way through the Iraqi infantry divisions to the east almost at once.⁵⁷ The passage of the British division, however, lasted until about 0200 into the morning of the 26th.

Thereafter, the 1st Infantry Division began to move north to fall in behind the 2d Armored Cavalry. After dark, the 1st Infantry Division passed through the regimental line and came abreast of the 1st and 3d Armored Divisions (the 3d had been uncovered by the regiment the night before) as they moved east in the great VII Corps three-division phalanx.

The notes and accounts within VII Corps and at Third Army make it clear that the gap was widening between Schwarzkopf's perception of what was necessary and his understanding of what was occurring in VII Corps. Much of the misunderstanding would seem to have been the result of imprecise use of language as the corps' intentions were passed through army to the theater headquarters; it was also the result of the inevitable tension between those who view war at the operational level and those whose primary focus is tactical. Franks was forward all day, everyday, visiting his commanders on the ground, taking the pulse of his forces, experiencing the weather and blowing dust or rain. Often the texture of the battle seems not to have worked its way to the theater commander far to the rear. Moreover, far from the battlefield, progress seems to have been equated only with movement.

Franks had talked about continuing without pause, yet, again, by 2100 on the 25th, the 1st Armored Division and 2d Armored Cavalry Regiment had stopped for the night, the former to prepare for a deliberate attack, the latter in a hasty defense to allow the corps to rebalance for the decisive attack the next day. From the tactical perspective, action continued. Combat did not stop. The 1st Armored Division attacked by air and artillery all night, enabling it to overrun its objective in the morning and continue on to its place on the left of the corps' wall of iron. For its part, 2d Cavalry was involved in repelling Iraqi attacks for much of the night.⁵⁸

The picture being painted in the Ministry of Defense and, through there, to the Pentagon and perhaps the National Security Council seems to have been something else again. Operational-level warfare is largely perceived to be a matter of space and time. There were already reports of Iraqis fleeing the encirclement. Moreover, the Iraqi flight was quite visible to Schwarzkopf (and Yeosock for that matter) through the agency of J-STARS. J-STARS could indicate the build-up of a steady stream of vehicles up the road toward Basrah and beyond. It could not discriminate between a truck or a tank, of course, but the growing flight behind a deliberate blocking force was apparent. Whatever the Air Force had done to seal the KTO by cutting its bridges, it had not been enough to stop the Iraqi flight north out of Basrah entirely—nor would it be, as the ground attack progressed.

Schwarzkopf seems to have feared that the encirclement would not be fast enough to prevent the Iraqis from drawing off significant forces behind their covering line, and that the continuous attack from the air on fleeing units was not going to be destructive enough to do what needed to be done.

What Schwarzkopf did not seem to have considered was the logistic limits of the encircling forces, the U.S. 1st Armored Division and, ultimately, the 24th Infantry Division. (See figure 33.) Moreover, Schwarzkopf did not seem to be aware of the rather stark fact that increased speed, say at Objective Purple on the night of the 25th, would have been paid for in soldiers' blood—a cost Third Army commanders, from division through army, seemed to have been more reluctant to pay. Schwarzkopf either did not share this awareness, or else it was a price he found acceptable.

Yeosock and Arnold were aware of Schwarzkopf's general expectations; indeed, they had repeated them at their morning general officer conference. Arnold had then anticipated three battles for the 25th, one at Phase Line Smash (XVIII Corps), a second at Objective Purple (1st AD), and a third consequent to the reaction of the Iraqi 12th (really 52d Armored Division), the tactical reserve. Yeosock's guidance had been clear. The two corps were to continue as a movement to contact. "The CinC's intent," Yeosock said, "is continuous pressure, no lulls."⁵⁹ Clearly, in Yeosock's view, that was just what Franks was delivering.

In his memoir, Schwarzkopf writes that at about 2100 on the 25th, "Yeosock reported that while VII Corps columns were still unopposed, rain and sandstorms were slowing them down, and they were twenty miles short of Collins."⁶⁰ Schwarzkopf, who had just spoken directly to the president, indicates his disappointment at the report and the great frustration of General Waller, once more his deputy. Yet when Yeosock returned to his headquarters from the evening briefing at CENTCOM that night, he observed that Schwarzkopf was satisfied with the army's operational style, although he, Schwarzkopf, had expressed concern about the separation developing between the 24th Infantry Division and VII Corps (the 24th, whose Objective Grey was adjacent to Objective Purple, was dashing on by that night toward the Euphrates, while the 1st Armored Division waited until morning to cross Purple) and the fact that the weather for the 26th looked to be worse than it had been on the 24th or 25th.⁶¹ The Third Army commander tried once more to obtain release of the theater reserve (1st Cavalry Division) that night and failed to do so. One can only observe that the effect of the rain and sandstorms, as well as enemy

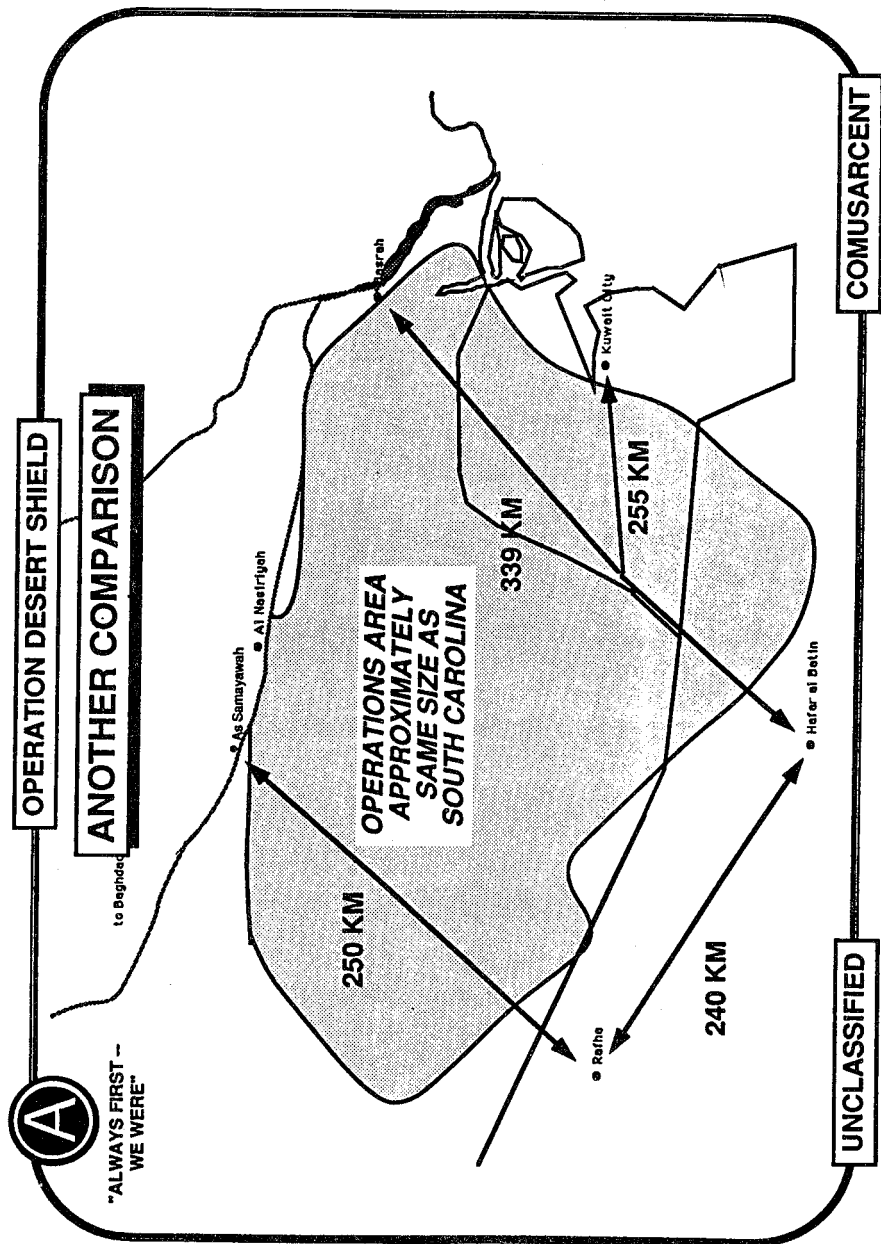


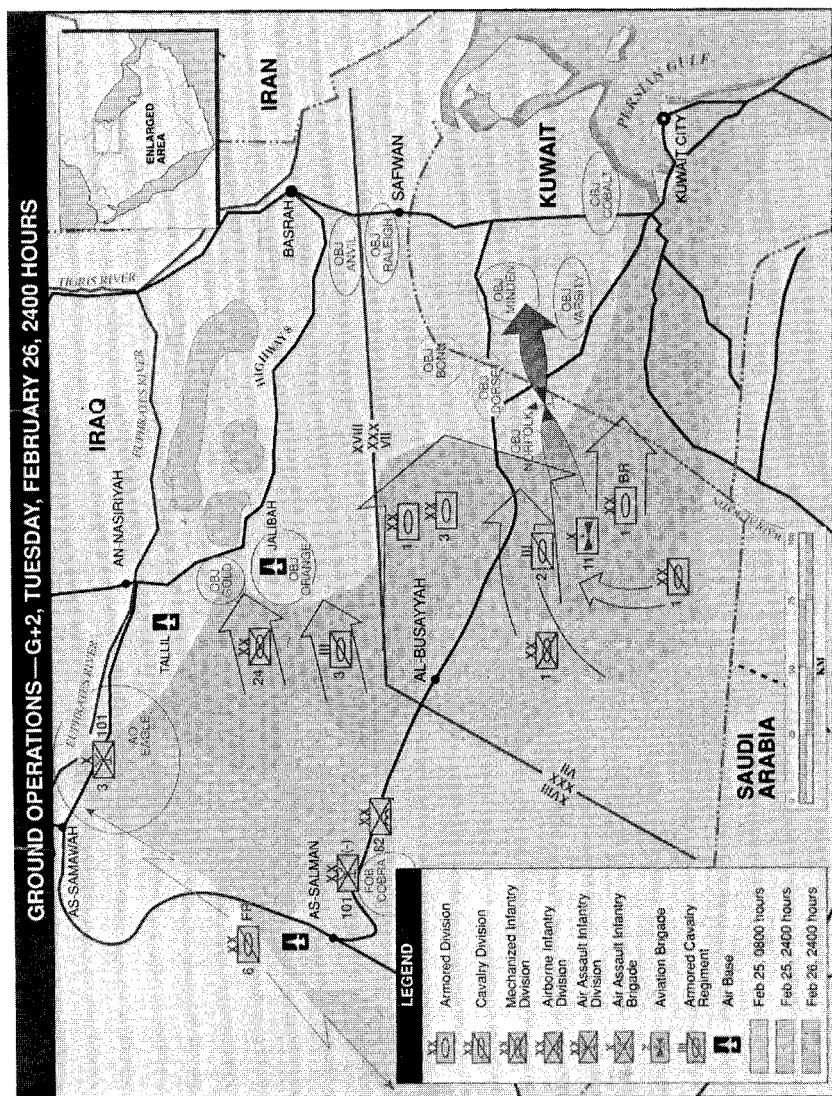
Figure 33.

resistance (for the corps was not unopposed), were more obscured when viewed from the Ministry of Defense basement than they were in the field. The CENTCOM commander was falling victim to the disease of "chateau generalship."

Yeosock's concerns for 26 February involved obtaining release of the 1st Cavalry Division, which the CINC continued to hold as reassurance for Joint Forces Command North and the Egyptians until the latter could complete their breach and breakout; setting a proper boundary to establish the terms for the two Army corps to destroy the RGFC; and bringing the two corps more or less on line by their securing of Objectives Orange and Collins (XVIII and VII Corps respectively) by early afternoon of the 26th.⁶² From Yeosock's perspective, these actions were within what he understood to be the CINC's intent and within his own projected time lines. By morning, it would be clear that was not good enough for Schwarzkopf.

At 0135 on the 26th, Baghdad radio announced an Iraqi withdrawal from Kuwait.⁶³ President Bush responded quickly, first, through Press Secretary Marlin Fitzwater at 0630 on the 26th (local time was still 2230, the 25th in Washington) and then, later, on the morning of the 26th in Washington, with a brief (three-minute) personal statement. The thrust of the response was that Saddam's withdrawal was unsatisfactory without his corresponding acceptance of the various UN resolutions about abandoning any claim to Kuwait, payment of reparations, and release of prisoners.⁶⁴ Early morning intelligence reports indicated that, indeed, the Iraqi Army had begun a mass exodus led by III Corps in the east beginning at 2230 (local) on the 25th. There had been initial indications of withdrawal via J-STARS images as early as 0300 the 25th.⁶⁵

At 0830 on the 26th, while the ARCENT staff was preparing for its routine morning update briefing, Yeosock was called to the phone for an urgent call from Schwarzkopf. (See map 10.) There are various colorful accounts in the press of the tenor of this call, most of which are supported by the circumstantial evidence and memories of staff officers in the vicinity.⁶⁶ The thrust of the business was that Schwarzkopf was dissatisfied with what he saw as the overly cautious and slow VII Corps offensive. This concern was shared by General Powell, far off in Washington, who compared VII Corps' progress unfavorably with that of the (as yet largely unopposed) 24th Division.⁶⁷ Lieutenant Colonel Kendall merely observed in his notes: "0840C: CINC called to prepare for more rapid OPTEMPO; 24 ID released from the limit of advance (PL Viking)."⁶⁸ Elsewhere he noted:



Source: Brigadier General Robert Scates et al., *Certain Victory: The US Army in the Gulf War* (Washington, D.C.: Office of the Chief of Staff, 1993).

"CinC's guidance has changed from deliberate operations to a pursuit."⁶⁹

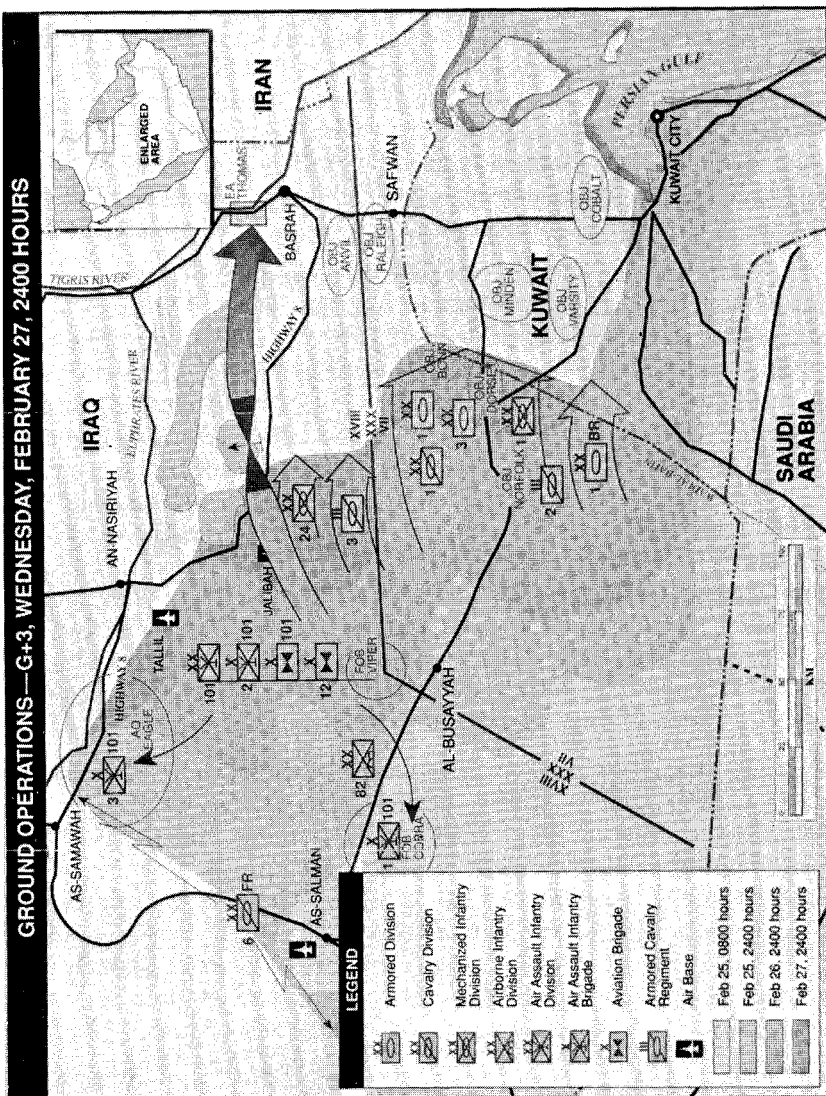
Notwithstanding the withdrawal of the Iraqi III and IV Corps in the east, Iraqi operational reserves, much of the RGFC, and regular Iraqi Army armored and mechanized divisions were clearly under control and, as the Marines and 2d Armored Cavalry had learned on the 25th, prepared to fight to provide cover for the retreating forces.

For the VII Corps and Third Army commanders, the bitter irony in Schwarzkopf's call was that the 26th was the day when it was all coming together—the CINC's display of temper notwithstanding. During the previous night, Yeosock had set the battlefield for the destruction of the Republican Guard by issuing the boundaries for the advance eastward.⁷⁰ (See map 11.) Meanwhile, Franks had brought his three heavy divisions on line. Incidentally, Yeosock had decided not to turn over part of VII Corps' area of operations to XVIII Corps in the vicinity of Objective Purple. Rather, he required VII Corps to provide XVIII Corps an MSR through that area on order.⁷¹

The 24th Division would run wild in the Iraqi rear starting at midafternoon on 26 February and extending through the 27th. The "Victory" Division attacked down the Euphrates valley in two directions, overrunning the theater logistics site at Juwarin (Objective Gold) and, in an exercise not unlike the Federal Cavalry's 1863 raid on Brandy Station,⁷² destroyed Iraqi aircraft on the ground at the air bases at Tallil in the west and Jalibah in the east.

On the morning of 27 February, the 101st Airborne Division showed its inherent flexibility by establishing a new forward operations base on the ground to the east, taking over a site secured by the 3d Armored Cavalry Regiment as the regiment came up to become the right flank of the 24th Division's advance. That afternoon, the 101st, reinforced by the 12th Aviation Brigade from XVIII Corps, would send four Apache battalions in rotation across the Haer al Hammar to interdict the Iraqis, who managed to escape northwest from Basrah. That evening, the 24th Infantry Division, now with the operational command of the 3d Armored Cavalry and formed with two heavy brigades and an armored cavalry regiment abreast, was poised to begin a descent down Highway 8 toward a line approximating the Rumayulah oil fields (and possibly beyond)—an advance foreshortened only by the political decision to cease offensive operations.

As for VII Corps, Franks had completed the shifting of his offensive center of gravity to his left on the 25th in spite of the foul weather. The corps had found the Republican Guard Forces Command



Map 11.

and, with or without the spur from the basement of the Ministry of Defense building, had begun execution of the second phase of its attack plan that evening. The plan would change in detail throughout the 26th, first, because of the sudden if late availability of the 1st Cavalry Division and, second, as the corps accommodated the changes inherent in the two-sided game of war.⁷³ The day would see the corps' "fist" roll east in what is known somewhat prosaically as a "relentless attack"—an eighteen-hour, continuous, disciplined, and unforgiving progress through the Iraqi defensive barrier by thousands of armored fighting systems. At 1354 that day, the CINC moved the ARCENT-Joint Forces Command North boundary south to provide additional maneuver room for VII Corps in northern Kuwait.⁷⁴ On the 27th, the 1st Infantry Division would break through on the corps' right, and Franks would be preparing for a final encirclement when the events associated with the cessation of offensive actions intervened on the night of the 27th–28th.

Franks called Schwarzkopf during the afternoon of the 26th and explained his true situation.⁷⁵ By the time he spoke to Schwarzkopf, Franks' troops were in battle with the RGFC, the 1st Cavalry Division had been released, and the pique of the morning seemed to have been assuaged. It seems, however, that Schwarzkopf continued to harbor uncertainty about the aggressiveness of the attack. In his memoir, Schwarzkopf asserts that Franks (whose forces were already engaging the RGFC) indicated an intention to turn his force south to clear his flank before beginning the main attack. Franks (to whom the assertion is a mystery) may have referred to using the terrain in northern Kuwait opened up for him by the earlier decision, and the CINC misunderstood the remark in consonance with the false picture he already entertained. While Franks quite rightly directed his energies to the business at hand, he now had a new flank to protect, the one in Riyadh. Schwarzkopf continued to fume in the bunker.⁷⁶

Elsewhere in the theater, the Marines captured the Kuwait International Airport, repelled a second armored counterattack, and thus cleared the way for the Joint Forces Command North and Joint Forces Command East to liberate the despoiled capital. At about 1030 on the 26th, the CINC extended the MARCENT sector to include the Al Jahara-Mutla Ridge bottleneck outside of Kuwait City en route to Basrah.⁷⁷ The "Tiger Brigade" would cut the "highway of death" on the ground between Kuwait City and Basrah, as would the 1-4th Cavalry of the 1st Infantry Division, farther north, soon after.

Schwarzkopf finally released his theater reserve, the 1st Cavalry Division(-), at H+53 (at 0920 on the 26th), after the call to Yeosock and twelve hours later than ARCENT had estimated was necessary

(based on time and distance) for the division to be available for the decisive attack.⁷⁸ The division passed through the 1st Infantry Division breach and raced north, arriving in time for a final attack on the 28th, which never occurred. Certainly, Schwarzkopf's reluctance to commit his own reserve until so late in the battle undermines any pretense of his to a superior vision or aggressiveness in anticipating the Iraqi collapse. Rather, his frustration seems to reflect both the consequences of being unable to keep up with a rapidly developing situation as well as he felt was necessary, and a new and largely political anxiety that Saddam might be able to save some face from the disaster that now confronted him. Yeosock's comments that day, reflected in Kendall's notes, indicate that Schwarzkopf was under pressure from Washington to destroy the RGFC more rapidly as pressure was growing at the United Nations to end the war. *The New York Times* attributed similar concerns to unnamed Bush administration officials.⁷⁹

That night, presumably to reassure various higher authorities and perhaps educate them about the difficulty of the task being accomplished, the ARCENT SITREP went into some detail about conditions in the area of operations. The VII Corps' commander stated as his intent: "TO CONTINUE UNRELENTING ATTACK TO DESTROY THE RGFC AND CUT ESCAPE ROUTES." He noted the number of heavy brigades destroyed to date and the number of prisoners captured, pointing out that this had been done at an incredibly low cost in U.S. casualties. "CURRENT CONCERNS," the report continued, "ARE CENTERED ON WEATHER AND THE EFFECT HEAVY RAINS HAVE HAD ON THE SUPPLY ROUTES." The report indicated some of the measures required to keep the corps advance going, to include airlift of critical supplies of food, fuel, and ammunition.⁸⁰ The ARCENT commander noted as well:

IMPRESSIVE SUCCESSES BY VII CORPS AND XVIII CORPS HAVE ALSO BEEN ACCOMPANIED BY THE CHALLENGES OF AN EXTREMELY RAPID OPERATIONAL TEMPO AND POOR WEATHER. RAIN, LOW CEILINGS, AND DENSE MORNING FOG HAVE LIMITED CAS AGAINST ENEMY ARTY AND ARMOR.

RAIN HAS ALSO DEGRADED TRAFFICABILITY OF MSR'S AT A TIME WHEN RAPID TACTICAL ADVANCES HAVE EXTENDED SUPPLY LINES AND INCREASED SUSTAINMENT DEMANDS.⁸¹

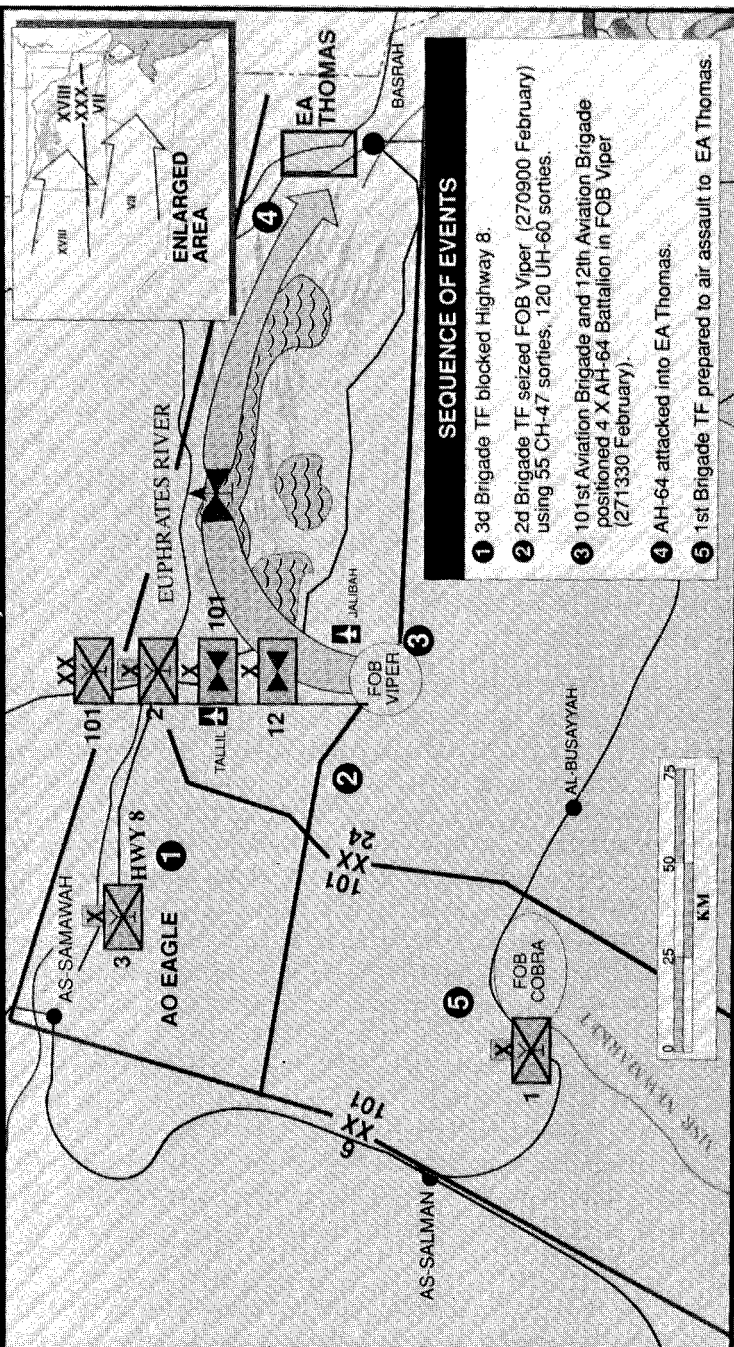
Elsewhere, while the decisive action was taking place in VII Corps' area, high theater was occurring on the banks of the Euphrates in XVIII Corps' area of responsibility, and it was chiefly the doing of General McCaffrey's 24th Infantry Division. The XVIII Corps' FRAGO

66, issued at 1817 on the 25th, had directed the 24th Division to attack and seize Objective Gold, the theater logistics base at Juwarin. The division began its attack at 1400 on the 26th to seize battle positions in the river valley. The 1st and 2d Brigades fought their way to positions facing east toward Juwarin, while the 197th moved to a position facing Tallil (to the northwest). The 3d Armored Cavalry Regiment was placed under the operational control of the 24th Infantry Division at noon on the 26th and attacked on the right to seize Objective Tim, which was to become a new FOB Viper for the 101st Airborne Division's aviation units the following morning. The division fought through the night with the RGFC Nebuchadnessar Infantry Division and 26th Commando Brigade and reported seizure of Objectives Gold and Tim by 0330 on the 27th.⁸²

At 2230 on the 26th, the 1st Brigade of the 24th Division, commanded by Colonel John LeMoyne, reported engaging tanks on HETs trying to move to the northwest. According to the ARCENT SITREP, fifty-four tanks on HETs were destroyed.⁸³ (For understandable reasons the destruction of anyone's HETs was the subject of some wry comments at ARCENT.) The following morning, the attack rolled on as the two organic brigades of the 24th conducted a deliberate attack on Jalibah airfield, which was reported secure by 1300. That afternoon, the 197th drove through the main gate of Tallil Air Base and down the strip destroying aircraft and various defensive installations before withdrawing.⁸⁴ The ARCENT LNO with XVIII Corps reported six helicopters and four fighters destroyed at Tallil and eight helicopters and ten fighters at Jalibah.⁸⁵ By early evening, the division was concentrated and refueling in anticipation of launching an attack down the Euphrates at 0400 the next morning.⁸⁶ The cost in friendly casualties to the division of over 26,000 (considering attachments) for Desert Storm was eight killed and thirty-six wounded in action, well below the permissible planning figure for CENTCOM of three companies per coalition brigade.⁸⁷ Over 5,000 prisoners were captured; over 360 armored fighting vehicles were destroyed.⁸⁸

By 0730 on the 27th, the 3d Armored Cavalry Regiment had secured Objective Tim, and the 101st airlifted its 2d Brigade into the site to establish a new FOB Viper in the vicinity of Al Busayyah (north) airfield.⁸⁹ By 1400, Apaches from the 101st Aviation Brigade and the 12th Aviation Brigade were operating out of FOB Viper, attacking targets along the highway east of the 24th Division and in Engagement Area Thomas northwest of Basrah.⁹⁰ (See map 12.) This was an unanticipated mission, and it left the 101st interdicting Highway 8 in AO Eagle with one air assault infantry brigade, securing

101ST AIRBORNE MOVE TO FOB VIPER AND ATTACK ON EA THOMAS—G+3, FEBRUARY 27



Map 12.

FOB Cobra with another (due to displace to Viper on the 28th), and the third providing a launching point for four attack helicopter battalions to interdict forces fleeing the KTO by two escape holes the Air Force had not been able to cut. The principal difficulty for the 101st involved aviation fuel, particularly since the corps did not immediately provide fuel for the long-range interdiction required of the 12th Aviation Brigade. The 101st provided fuel to get the immediate job done, and the corps replenished the division's stocks.⁹¹

The interdiction missions took place from 1430 to 1830 when the combination of night, bad weather, and smoke from the Kuwait oil fields forced the units to curtail their mission. The 12th Aviation Brigade reported destruction of fifteen Iraqi trucks, nine armored vehicles (significantly, no tanks), an SA-6 air defense system, and two air defense guns. The 101st Aviation Brigade reported destruction of three armored vehicles (again, no tanks), two ammunition trucks, and two air defense guns but noted that the Air Force had already destroyed many vehicles on the causeway escape route upon which the brigade focused its attention.⁹² Bad weather and the cessation of offensive operations the following morning would preclude further efforts in AO Thomas.

By 27 February, concern was beginning to be raised at home and in the field about the morality of killing fleeing Iraqi soldiers.⁹³ Aviators from the 101st and 12th Aviation Brigades expressed concern that they were having problems discriminating between armed and unarmed soldiers in the fleeing mass, a point General Peay, the commander of the 101st Airborne Division, raised with General Luck, the XVIII Corps commander, but one which was not resolved before weather and darkness intervened to make the issue moot.⁹⁴ The general sense of commanders was that U.S. soldiers went to unusual lengths to avoid the unnecessary killing of Iraqi soldiers, who clearly had had enough of the fight and who often seemed more abused by their own leaders than their presumptive enemies. Moreover, most senior commanders, veterans of Vietnam, went to great lengths to ensure that Desert Storm soldiers understood the standards of behavior that were expected of them. Peay, a graduate of the Virginia Military Institute, a soft-spoken Virginian of extraordinary ethical sensitivity, had seen to it that his soldiers were well briefed on the legal and moral imperatives limiting the conduct of military operations.

But the face of war is cruel, and in Desert Storm, it was presented in real time and living color on national and international television. The vivid images carried in reports of the effects of U.S. bombing in

Baghdad, the Scud damage in Israel and Saudi Arabia, as well as the nature of the Iraqi flight, would lead to increased pressure on President Bush to find a way to stop the killing.⁹⁵

The main attack was taking place in VII Corps. It began with the advance of the 2d Armored Cavalry Regiment and Third Armored Division the morning of the 26th and continued almost without pause until the evening of the 27th. The 1st Armored Division overran Objective Purple and continued east to fall in on the left of the 3d Armored Division on the afternoon of the 26th. The 1st Infantry Division passed through the 2d Armored Cavalry Division, fought through the Iraqis, and broke out on the corps' right center. The 1st U.K. continued its progress eastward and across Wadi al Batin, protecting the corps' right flank and opening the way for the Joint Forces Command North to attack toward Kuwait City.

In front of VII Corps, the enemy's heavy brigades were laid out in width and depth. The enemy front was such that the three heavy brigades of the much-abused RGFC Tawakalna Mechanized Division would face an armored division each. The Tawakalna was truly the most abused Iraqi formation. Schwarzkopf seems to have taken a special dislike to the Tawakalna and spent a good bit of his air effort on its attrition. Prebattle BDA (to the extent it can be relied upon) reported it one of the most reduced of enemy formations.⁹⁶ Now, it would fight the 1st and 3d Armored Divisions, the 2d Armored Cavalry Regiment, and the 1st Infantry Division—just about simultaneously.

The 1st Armored Division, on the corps' left, would also fight the RGFC Medina Armored Division, a brigade of the RGFC Adnan Infantry Division, and the remains of several regular Iraqi units. The U.S. 3d Armored Division would fight a brigade of the Tawakalna, the 10th Armored Division, and part of the 12th Armored Division. The U.S. 2d Armored Cavalry Regiment, which had already destroyed a brigade of the 12th Armored Division, would fight part of the Tawakalna and more of the 12th and be relieved the night of the 26th by the 1st Infantry Division, which would take over destruction of the Tawakalna, the 12th, and parts of the 10th Armored Divisions. Because the Iraqi battle array was breaking down, various units appeared at odd places on the battlefield, and reconstruction of the actions can only be approximate.⁹⁷

The advance on the 26th was picked up first by the 2d Armored Cavalry Regiment, which had been in battle both the previous day and through much of the night of the 25th–26th. The regiment received the order from VII Corps implementing the contingency plan for

destruction of the RGFC at 0522 that morning. The order directed the 2d ACR to advance to the east and fix the Tawakalna Mechanized Division, then to pass the 1st Infantry Division through to continue the attack.⁹⁸ First, the regiment had to uncover the 3d Armored Division to allow it to advance in the center of the corps' fist.

By 0620, the regiment was moving east. At 0713, it had its first confirmed contact with the covering force of the Tawakalna Division, which was apparently moving north.⁹⁹ By 0915, the weather had deteriorated severely. By afternoon, the 2d Armored Cavalry Regiment and most of VII Corps advanced toward the Republican Guard through a *Shamal*, a perverse mix of rain and blowing sand that can reduce visibility to next to nothing. VII Corps' battle with the RGFC was conditioned and, in some respects, favored by attacking out of this storm. For the most part, superior U.S. weapon optics allowed VII Corps' systems to see the enemy while remaining concealed from them.

After dealing with the covering force, the regiment had to be resupplied with ammunition by C-130 airdrops and with fuel and ammunition by CH-47 airdrops.¹⁰⁰ Franks, on his daily round forward, came to the regimental CP at 1250. He consulted with Colonel Holder and ordered the regiment east to fix the main body of the Tawakalna, then prepare to pass the 1st Infantry Division. About 1500, the regiment passed the line of departure with three squadrons abreast, made contact with the Tawakalna Division, and fought the six-hour battle named by the press as the "Battle of 73 Easting." At 2200 on the 26th, the 1st Infantry Division began passing through the regiment and picked up the fight within twenty minutes. The 2d ACR passed into the corps' reserve—for the remainder of the ground war as it happened. The regiment's fuel status was Red.¹⁰¹

The 3d Armored Division on the regiment's left began passing around the regiment at 0918 on the 26th. The division advanced with two brigades abreast, 2d Brigade on the north, adjacent to the 1st Armored Division, and 1st Brigade in the south, adjacent to the 2d Armored Cavalry Regiment. On the morning of the 27th, the 3d Brigade was passed through the 2d and continued the attack alongside the 1st until the division sector was pinched out during the evening of the 27th.

The 3d Armored Division fight was similar to that of the 2d Armored Cavalry Regiment and the 1st Infantry Division. After following the 2d Armored Cavalry Regiment north for two days, cleaning up the by-passed units left in the regiment's wake, the

division began its turn east, then southeast, on the morning of the 26th. The 1st Brigade, commanded by Colonel Bill Nash, had been joined by the 2d Battalion, 29th Field Artillery, on the 25th as part of the corps' shifting of its center of gravity to the left. Throughout the 25th, the brigade moved north in a diamond formation at an approximate rate of advance of twelve mph. The 2d Battalion, 29th Field Artillery, had joined the brigade on the move. Two batteries of multiple launch rocket systems would join the column on the morning of the 26th, reinforcing further the fires available to the direct support artillery battalion (2d Battalion, 3d Field Artillery), already part of the brigade task force.¹⁰² During the evening of the 25th, the brigade commander had received his warning order for the battle with the RGFC. It rained all night and visibility was poor the morning of the 26th when the brigade crossed the line of departure at 0530.¹⁰³

The brigade drove east looking for the Tawakalna Division. It found one of its brigades about 1702, generally on the 72 Easting. The 3d Battalion, 5th Cavalry (a mechanized infantry task force, title notwithstanding), immediately moved three of its company teams on-line and, supported by artillery and A-10 close support aircraft, fought through a prepared defensive position. Task Force 4-32 Armor, in the north, also fought an engagement with enemy mechanized infantry from about 1920 until about 2000. The 4th Battalion, 34th Armor, in the south, engaged some miscellaneous enemy troops. Only the 3d Battalion, 5th Cavalry, remained in contact in the early morning hours.¹⁰⁴ At 0145 on the 27th, the 1st Brigade was told to change its direction more to the southeast and narrow the brigade front. At 0630, the brigade began moving forward by bounds. Prisoners surrendered in some numbers. At 0700, the 4th Battalion, 32d Armor, found a second defensive line and began to reduce it. By 0800, the task force had destroyed thirteen enemy tanks, sixteen BMPs, and fourteen other armored infantry carriers. Some 230 prisoners were taken.

The brigade continued on in this way throughout the day, attacking defensive areas, advancing between them with small meeting engagements along the way, and, when they were not actually attacking, taking prisoners in large numbers. The night of the 27th, the brigade passed into Kuwait, closing on its final objective in the early morning hours of the 28th.¹⁰⁵

The 2d Brigade, in the north, had moved out at 0600 on the 26th and, like its southernmost peer, had advanced through indifferent resistance until about 1600. At that time, the brigade was preparing to refuel when it was ordered to continue the advance to maintain pressure on the RGFC. It engaged the same brigade of the Tawakalna

Division as its right-hand neighbor about 1630 and fought with it throughout the night until 1045 on the 27th. Then, the 3d Brigade passed through, while in contact with the enemy, and continued the divisional attack to the southeast alongside and beyond the 1st Brigade. The brigade crossed into Kuwait at 1658 on the 27th. The 2d Brigade estimated that it had destroyed twenty-seven enemy tanks and fourteen BMPs at the cost of two American soldiers killed and six others wounded. One of the killed was the victim of a misdirected U.S. dual-purpose ICM (improved conventional munition—an artillery round that disperses small, armor-penetrating bomblets above a target).¹⁰⁶ The division had advanced 225 kilometers in seventy-eight hours. It had fought and destroyed forces of the 29th Infantry Brigade and 9th Armored Brigade of the Tawakalna Division and elements of the 52d and 17th Armored Divisions. One Iraqi prisoner remarked to his captors: "You were like the wind. You come, blow and go away. You cannot shoot the wind."¹⁰⁷

In one incident, where attacking through the *Shamal* had not worked to the U.S. advantage, A Troop, 4th Squadron, 7th Cavalry, of the 3d Armored Division—which was screening adjacent to the 2d Armored Cavalry Regiment on the south during the evening of the 26th—ran into an enemy position backed up with tanks and lost two killed, twelve wounded, and four Bradley fighting vehicles destroyed. The troop commander, believing because of the limited visibility that he was facing a force without tanks (unlike a regimental squadron, a divisional cavalry squadron has no organic heavy armor), he pressed his attack when first engaged. Perhaps because he deployed his platoons from column to line by splitting the following platoon sections around the forward platoon, left and right, the squadron's commander found disengagement unexpectedly complicated and confused. The troop was relieved by the tanks of the armored battalion task force following it, and the attack proceeded. For A Troop, the experience was both costly and traumatic. For the division, it was but a blip on the screen during a relentless advance.¹⁰⁸

On the left of the 3d Armored Division and on the extreme left of the corps, the 1st Armored Division began its attack at 0630 the morning of the 26th—at Objective Purple. The attack passed through the objective and wheeled 90 degrees to the east, deploying three brigades abreast and attacking. "Old Ironsides" fought, in succession, a brigade of the ubiquitous Tawakalna Division, a brigade of the RGFC Adnan Infantry Division, and the RGFC Medina Division.¹⁰⁹ The division was in almost continuous combat over forty-eight hours and covered 115 kilometers from start to finish. Logistics, inhibited by

the bad weather over roadless terrain, were beginning to restrict the wheeling corps. The 1st Armored Division required an infusion of fuel from the 3d Armored Division to maintain its advance.¹¹⁰

The 1st Armored Division's 3d Brigade (on the right) fought the northernmost brigade of the Tawakalna Division. The Tawakalna had been spotted first by an Air Force A-10 and attacked at 1624. The air attack was followed by division air scouts, who identified elements of the Tawakalna and 52d Armored Division. Ground scouts counted a total of fifty-two tanks. Thirty of these were then destroyed by artillery and AH-64 fire, after which, the 3d Brigade attacked through and destroyed the remaining twenty-two. At the same time, MLRS fire effectively neutralized a brigade of the Adnan Division, which apparently was the anchor of the Iraqi defensive line in the center of the division sector.¹¹¹

During the night of the 26th-27th, a U.S. engineer unit that had been left behind during the division's advance was fired upon by a unit of the 3d Armored Cavalry Regiment coming up on the XVIII Corps right. A 1st Armored Division engineer was killed when misidentified by a cavalry squadron commander, who apparently ordered his gunner to fire across the corps boundary at what he took to be Iraqi infantry.¹¹² This incident is particularly important because it illustrates the difficulty of maintaining contact across unit boundaries, a problem that is even more difficult the higher the headquarters involved and the faster the forward units advance. In this case, the engineers, members of an attached unit, were far behind the advancing forward line of 1st Armored Division troops. It was night in the open desert, which by then was full of intermingled U.S. and Iraqi troops, some of the latter with hostile intent, some simply trying to escape. The squadron could not tell who was on its flank when they spotted the engineers.

While the 1st Armored Division disposed of the Tawakalna Division, its aviation elements and dedicated air support began to locate and fix the Medina Division. By 0810 on the 27th, the 1st and 2d Brigades of "Old Ironsides" would be engaging the Medina Armored Division in a battle that would last late into the night. The 3d Brigade would also join the battle within thirty minutes.

The ground maneuver battle was accompanied by a counterfire battle that engaged Iraqi artillery in both the VII and XVIII Corps sectors with Army tactical missiles and multiple launch rocket systems in combination with fire finder radar. The fight between the 2d Brigade of the 1st Armored Division and the 2d Brigade of the

Medina was the largest single armored engagement of the war. Sixty-one Iraqi tanks, thirty-four armored personnel carriers, and five air defense systems were destroyed in a single hour.¹¹³ One hundred eighty-six Iraqi tanks, 127 armored personnel carriers, and thirty-eight artillery pieces were destroyed during the 27th at the cost of a single U.S. soldier. The 2d Brigade was commanded by Colonel Montgomery Meigs, namesake and direct descendant of the Union Army quartermaster general in the American Civil War.

In addition to the two RGFC divisions engaged, the 1st Armored Division overran elements of ten Iraqi regular army divisions, including the 12th, 17th, and 20th Armored Divisions—a measure of the confusion that existed in the Iraqi array by that time. During the 27th, the 1st Armored Division employed fifty-one air interdiction missions beyond the ground maneuver forces, six separate Apache company strikes, and significant artillery fire in support of the ground maneuver.¹¹⁴

For the entire four-day operation, the division claimed 418 tanks destroyed, 447 armored personnel carriers, 116 artillery pieces, 1,211 trucks, and 110 air defense systems. In addition, 2,234 prisoners were captured. The division lost only four killed—the two already mentioned and two others who were lost to enemy ordnance after the cessation of offensive actions.¹¹⁵

On the corps right, beginning at 2200 on the 26th, the 1st Infantry Division conducted an unrehearsed night passage of lines with the 2d Armored Cavalry Regiment then in contact with the enemy. A night passage of lines, dangerous enough under any circumstances, requires the following unit to approach the forward line in the dark, then to pass through its elements without being shot in the process. Passages of lines require a great deal of coordination even on a quiet sector. With troops in contact, they are very risky indeed, as soldiers' adrenalin is up, and men are prone to shoot first when unrecognized fighting vehicles come into view.

The 1st Infantry Division passed through the lines and carried on the fight with the Tawakalna's southern-most brigade and a brigade of the Iraqi 12th Armored Division. The division drove through the enemy's rear and into the open by 0430 the morning of the 27th. The 1st then refueled and began an exploitation by 1000 that would end that night with the division's cavalry squadron across the Kuwait City-Basrah highway and the division positioned for an envelopment of the RGFC's southern flank.¹¹⁶ The 1st U.K. Armored Division, as it crossed into Kuwait and met the Joint Forces Command North and

MARCENT troops to the east, was also coming into position to cooperate in such a move, should circumstances require it.¹¹⁷

The "Tiger Brigade," on the MARCENT left flank, had advanced on 26 February to the Mutla Ridge, the only terrain feature astride the principal escape route from Kuwait City. The Iraqis had mined and fortified this ridge line, and the "Tiger Brigade" now attacked down the ridge, becoming the stopper in the bottle and finally closing off on the ground what was already known as the "Highway of Death" following an intense air interdiction. The 3d Battalion, 67th Armor, commanded by Lieutenant Colonel Doug Tystad, had to breach an Iraqi minefield to block the road, then seize an Iraqi-occupied Kuwaiti police post.¹¹⁸ This attack was assigned to the task force's attached infantry company, C Company, 3d Battalion, 41st Infantry, commanded by Captain Mike Kershaw. The infantry dismounted and captured the police post after a room-to-room assault. During this fight, the task force's master gunner, Sergeant First Class Harold Witzke, became the second and final fatality suffered by the "Tiger Brigade" in its three-day adventure with the 2d Marine Division.

From the Mutla Ridge, the Fort Hood soldiers, remnants of a division being deactivated as part of the post-cold war reduction in force, blocked the retreat of numerous Iraqi units fleeing from southeastern Kuwait. Overall, the brigade reported destroying about 180 tanks, 135 APCs, thirty-six artillery pieces, and capturing 4,050 prisoners.¹¹⁹

The 1st Cavalry Division was up behind the 1st Armored Division by the close of the 27th, after a run north through the 1st Infantry Division breach and a race north and east. By evening on the 27th, it was ready to relieve the 1st Armored in the north to become part of a northern pincers in a double envelopment of the forces still outside Basrah in the VII Corps sector. The 24th Division was refueling during the early evening hours in anticipation of a final day's work that could lead to the outskirts of Basrah.¹²⁰ But events elsewhere were about to bring the "Great Wheel" to its conclusion.

Notes

1. Bvt. Colonel J. F. C. Fuller, "The Development of Sea Warfare on Land and Its Influence on Future Naval Operations," *Journal of the Royal United Service Institution* 65, no. 458 (May 1920): 281-98.
2. B. H. Liddell Hart, *Paris: Or the Future of War* (London: Kegan Paul, Trench, Trubner & Co., Ltd., 1925), 88. Liddell Hart used the term to differentiate mounted foot soldiers from the traditional infantry. According to his book *Thoughts on War* (London: Faber & Faber, 1944), 165, the term was coined in 1921.
3. See "Excerpts From Report by Schwarzkopf on the Fighting in the Persian Gulf," *The New York Times*, 31 January 1991, A12.
4. Lieutenant General Merrill A. McPeak, "TAC Air Missions and the Fire Support Coordination Line," *Air University Review* 36, no. 6 (September-October 1985): 65-72.
5. On 26 February, planes from the U.S. Air Force bombed two British Warrior vehicles, killing nine British soldiers and injuring eleven. According to General de la Billiere, reference to the need for a later inquiry into the circumstances of the incident led to a blowup by General Horner, whose pilots were responsible for the deaths. HQ, VII Corps, Corps Artillery, VII Corps Artillery memorandum, Subject: VII Corps Artillery Commander's Report, Operation Desert Storm, n.d., 3. Volume at Combined Arms Research Library, USACGSC, Fort Leavenworth, Kansas. De la Billiere, *Storm Command*, 291-96.
6. HQ, ARCENT, G3 (Deep Operations) (After-Action Report), March-April 1991, 10-11. Joint Lessons Learned Observation by Major Coombs, G3, Deep Operations, 1 March 1991 (JULLS Number 13265-29400 [00003]). Both documents are in possession of the author.
7. General Franks to author.
8. Arden Bucholz, *Moltke, Schlieffen and Prussian War Planning* (New York: Bing Publishing, 1991), 308. See, also, Michael Geyer, "German Strategy in the Age of Machine Warfare, 1914-1945," chapter 19 of *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 532. That is not to say that commanders never had to dismount infantry. As will be indicated below, the 1st Armored Division conducted a deliberate attack on Objective Purple. The commander of the 7th U.K. Infantry Brigade writes that his brigade conducted six formal attacks the first thirty-six hours, in which infantry "debused" on four occasions, two at night. Brigadier P. A. J. Cordingley, "The Gulf War: Operating with Allies," *Journal of the Royal United Services Institute for Defence Studies* 137, no. 2 (April 1992): 19.
9. Except as otherwise noted, basic weather data is taken from HQ, VII Corps, G2 memorandum, Subject: The 100-Hour Ground War: The Failed Iraqi Plan, dated 20 April 1991, 90 and annex G-1-1. Various observations are taken from unit diaries. The nature of the weather in the battle area is not always apparent from official Air Force staff weather officer forecasts, though they are used for BMNT and EENT times. The weather in the battle area was different than that in Riyadh and even in

King Khalid Military City. On G-day, the author was in a helicopter flying over the forward area from 0300-0900. The pilot was forced to land during hours of darkness due to blinding rain showers. Early morning hours, from 0600, on the border were bright and clear, though intermittent showers could be severe locally and winds heavy enough to raise blinding dust. By 1500, the area had clouded over, and bad weather followed. Desert Storm was conducted in some of the worst weather experienced in southeastern Iraq for years.

10. Memorandum from G2/SWO, Subject: USARCENT Weather Forecast, dated 23 February 1991 (valid 23/1700-24/1700).
11. Comment made by Brigadier General Frank Akers to the author. The author's observation of troops in vicinity of Riyadh were the same.
12. Message, 241800C FEB 91, FROM: CDR 101ST ABN DIV (AASLT) [SITREP—no subject line used], Sequence Number: 200, 1. Untitled narrative prepared by Colonel James T. Hill, commanding 1st Brigade, 101st Airborne Division, on 2 March 1991. The 1st Brigade also prepared a detailed narrative, HQ, 1st Brigade, 101st Airborne Division (Air Assault), Memorandum for Division Historical Officer, Subject: TF 1-101, 327th Infantry Regiment, Historical Summary of Desert Rendezvous II: Offensive Operations Against Iraqi Forces, dated 14 June 1991.
13. HQ, 1st Brigade, 101st Airborne Division (Air Assault), Memorandum for Division Historical Officer, Subject: TF 1-101, 327th Infantry Regiment, Historical Summary of Desert Rendezvous II: Offensive Operations Against Iraqi Forces, dated 14 June 1991, 4.
14. Untitled narrative prepared by Colonel James T. Hill, commanding 1st Brigade, 101st Airborne Division on 2 March 1991, 1.
15. HQ, ARCENT, Command Group, (Executive Officer's) Daily Memo, 24 February 1991 (1315C), 4. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.) Schwarzkopf, *Doesn't Take a Hero*, 451-53.
16. Interview with Major General Thomas Rhame, 26 July 1991, 4.
17. Ibid.
18. Slide titled, "Operation Desert Storm: Phase III (As of 24 Feb)," Operation Desert Storm Phase III Time Lines, Enclosure 24 to HQ, ARCENT, AFRD-DPT Memorandum for USARCENT Historian, Colonel Swain, Subject: HQ, USARCENT G3 Plans, Historical Narrative of Desert Shield, Desert Storm, Defense and Restoration of Kuwait, and Redeployment, vol. 3.
19. General Yeosock's expression to author later was "On schedule, under cost."
20. Tom Donnelly, "The General's War," *The Army Times*, 52d Year, no. 30, 24 February 1992, 8, 16-18.
21. HQ, 1st Infantry Division, Main Command Post, Daily Staff Journal dated 24 February 1991, items 15 and 17.

22. HQ, VII Corps, Assistant Chief of Staff, G2, AETSCB Memorandum, Subject: The 100-Hour Ground War: The Failed Iraqi Plan, dated 20 April 1992, 93.
23. *Ibid.*, 96.
24. The Iraqi concept governing employment of the Republican Guard on the 24th is not clear, though there was some movement picked up by J-STARS.
25. Rhame interview, 6. Letter to author from General Rhame, dated 5 October 1992. For the 1st U.K. Armored Division's perspective, see Major General Rupert Smith, "The Gulf War: The Land Battle," in the *Journal of the Royal United Services Institute for Defence Studies* 137, no. 1: 1-5. See, also, Brigadier I. G. C. Durie, CBE, "1st Armored Division Artillery on Operation Granby," *Journal of the Royal Artillery* 18, no. 2 (September 1991): 16-29.
26. Letter from General Rhame to author, 5 October 1992.
27. HQ, VII Corps, Tactical Command Post, Daily Staff Journal for 24 February 1991, item 54. See, also, interview with Colonel Stan Cherrie, VII Corps G3, 29 August 1991, 36-37.
28. Major Jason K. Kamiya, A History of the 24th Mechanized Infantry Division Combat Team During Operation Desert Storm, "The Attack to Free Kuwait" (January through March 1991) (Fort Stewart, Georgia, n.d.), 7. This is a division summary of actions in the Persian Gulf. These numbers represent the organic division plus attachments provided by XVIII Corps from corps and echelon-above-corps troops.
29. See, for example, HQ, 197th Infantry Brigade (Mechanized) (Separate), AFVE-IN, Memorandum for Members of the Sledgehammer Brigade, Subject: Chronology of the 197th Infantry Brigade (M) (S) Participation in the Gulf War, dated 24 April 1991, 2-3. The 197th was the third brigade of the 24th Division for Desert Shield-Desert Storm.
30. HQ, ARCENT, Command Group, (Executive Officer's) Daily Memo, 24 February 1991 (242330C), 2. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.)
31. Schwarzkopf, *Doesn't Take a Hero*, 455.
32. *Ibid.*, 455-56.
33. HQ, ARCENT, Command Group, (Executive Officer's) Daily Memo, 25 February 1991 (1430C), 3. (Executive Officer's Daily Memos will be filed with General Yeosock's paper at the Army Military History Institute, Carlisle Barracks, Pennsylvania.) According to Lieutenant General Luck and the ARCENT AAR, the CINC called him directly about the limit of advance on the 24th and by-passed ARCENT. HQ, CAC-T, Fort Leavenworth, Kansas, Center for Army Lessons Learned, Commander's Observations at the ARCENT AAR, DSSN112, 7.
34. HQ, ARCENT, Command Group, (Executive Officer's) Daily Memo, 25 February 1991 (1430C), 3. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Military History Institute, Carlisle Barracks,

Pennsylvania.)

35. HQ, ARCENT, Message, 250300Z FEB 91, FM COMUSARCENT MAIN//DT//, MSGID/SITREP/USARCENT/G+1/FEB//,PERID/240300Z/ TO :250300Z/ ASOF: 250300Z, 11.
36. Message, 250300Z FEB 91, FM COMUSARCENT MAIN/ /DT//MSGID/ SITREP/USARCENT//G+1/FEB, PERID/240300Z/TO:250300Z/ASOF:250300Z, 1-2, 10-11. Message FROM: CDR VII CORPS//CG//, Subject: Commander's SITREP (Combat) #38, Reporting Period: 232100Z to 242100Z FEB 91. HQ, VII Corps, TAC CP, FRAGO 138-91, DTG 24200C. ARCENT SPOT Report (from Mobile CP Logs), received by Major Ward, DTG242327C (note: three hours after FRAGO 138-91). Daily Staff Journal for 24 February, ARCENT Main CP, VII Corps Desk, item 29, 2330C, from Major Hanna (VII Corps). The ARCENT TAC had informed the main CP at 2220 that the 1st U.K. would be through the breach by 1200C, to begin possibly at 0800C.
37. Message, 250300Z FEB 91, FM COMUSARCENT MAIN/ /DT// MSGID/ SITREP/USARCENT/G+1/FEB, PERID/240300Z/TO: 250300Z/ASOF :250300Z, 12-14.
38. HQ, ARCENT, AFRD-DT, Memorandum for Major General Taylor, ARCENT Rear, Subject: ARCENT SITREP, 25 February 1992.
39. Lieutenant General Walter E. Boomer, USMC, "Special Trust and Confidence Among the Trail-Breakers," *The U.S. Naval Institute Proceedings* 117, no. 11 (November 1991): 49.
40. Colonel John Sylvester, "Report," as told on 6 March 1991 (provided to author by Colonel Sylvester), 2. The report is a transcript of an interview with Colonel Sylvester by a Marine Corps historical detachment, interview with Lieutenant Colonel Matthew S. Klimow, S3, 3d Battalion, 41st Infantry, at Fort Leavenworth, Kansas, 17 March 1992 (Tape 2), 14.
41. Klimow interview, 32.
42. Although losses to the 14th Quartermaster Detachment got most of the publicity due to its Reserve Component, community-based character, only thirteen of the twenty-eight dead were from the detachment. Nonetheless, the 14th suffered a 75 percent casualty rate. Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Company, 1993), 418-19.
43. Narration of Rakkasan (3d Brigade, 187th Infantry Regiment) Deployment and Participation in Desert Shield and Desert Storm (unsigned), 2-3. Narrative collection of 101st's historical officer.
44. Message, 251800C FEB 91, FROM: CDR 101ST ABN DIV (AASLT) [SITREP—no subject line used], Sequence Number: 201, 2. Narration of Rakkasan (3d Brigade, 187th Infantry Regiment) Deployment and Participation in Desert Shield and Desert Storm (unsigned), 3-4.

45. HQ, 197th Infantry Brigade (Mechanized) (Separate), AFVE-IN, Memorandum for Members of the Sledgehammer Brigade, Subject: Chronology of the 197th Infantry Brigade (M) Participation in the Gulf War, dated 24 April 1991, 3.
46. Ibid. See, also, HQ, 24th Infantry Division, briefing titled, "Operation Desert Storm Post-Attack Summary," dated 22 March 1991.
47. Message, 251517Z, FM CDR XVIII ABN CORPS//G3//, Subject: FRAGO 66 to OPLAN Desert Storm, 1.
48. Message, 270300Z FEB 91, FROM COMUSARCENT MAIN//DT//, MSGID/SITREP/USARCENT/G + 3/FEB//PERID/260300Z/TO:270300Z/ASOF:270300Z, 13-14. HQ, 197th Infantry Brigade (Mechanized) (Separate), AFVE-IN, Memorandum for Members of the Sledgehammer Brigade, Subject: Chronology of the 197th Infantry Brigade (M) Participation in the Gulf War, dated 24 April 1991, 3-5. See, also, HQ, 24th Infantry Division, briefing titled, "Operation Desert Storm Post-Attack Summary," dated 22 March 1991.
49. Message, 252200Z, FROM CDRXVIIIABNCORPSFWD//G-3//, MSGID/SITREP/XVIII ABN CORPS/025/FEB 91, PERID/FROM 242100Z FEB/TO 252100Z FEB/AS OF 251200Z FEB 91//, 4-5.
50. HQ, VII Corps, Assistant Chief of Staff, G2, AETSCB, Memorandum, Subject: The 100-Hour Ground War: The Failed Iraqi Plan, dated 20 April 1991, 109-10. See, also, Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," 16-37. This essay contains diagrams that portray the enemy deployment throughout the ground war as VII Corps assessed it afterwards.
51. See "Stalking the Janus-Faced God of War: Two Small Units and the Different Battles They Fought," *U.S. News and World Report*, 20 January 1992, 52-54.
52. HQ, 1st Armored Division, AETS-KGC, Memorandum for Record, Subject: 1st Armored Division in Operation Desert Storm, dated 19 April 1992, 5-6. Memorandum contains graphics describing division actions.
53. Ibid., 6. See, also, 1st Armored Division Operations Briefing, slides titled, "Battle for Al Busayyah." ARCENT Commander's (Executive Officer's) Daily Memo indicates ARCENT was aware of the VII Corps' decision to conduct a deliberate vice hasty attack on Al Busayyah. At the VII Corps after-action review, discussion focused on the abysmal weather the night of the 25th-26th and the stiff resistance put up on the 26th following a night of preparation by fire. Some 451 EPWs were taken. ARCENT historian's Notes from Corps Commander's After-Action Review, 11 March 1991, 5. The VII Corps G2 battlefield reconstruction assesses the holding force as elements of the 806th Brigade, to include a commando unit. The post was site of the Iraqi VII Corps' rear command post. HQ, VII Corps, G2 memorandum, Subject: The 100-Hour Ground War: The Failed Iraqi Plan, dated 20 April 1992, 115-16.
54. Message, 260300 FEB 91, FROM COMUSARCENT MAIN//DT//, MSGID/SITREP/USARCENT/G + 2/FEB//, PERID/250300Z/TO:260300Z/ASOF:260300Z, 10. HQ, 2ACR, Operation Desert Storm, 2ACR Operations Summary, 23 February-1 March 1991, 5-7.

55. HQ, 2ACR, Operation Desert Storm, 2ACR Operations Summary, 23 February—1 March 1991, 7.
56. Memorandum for Commanding General, 3d Armored Division, Subject: Battle Report: Operation Desert Spear, 24–28 February 1991, dated 2 March 1991, prepared by Major (P) John D. Rosenberger, Deputy G3, Operational Assistant to Major General Funk, 8–12. As for disagreement with VII Corps' staff, see interview with General Paul Funk, CG, Third Armored Division, by VII Corps historian at 3 AD Main, 4 April 1991, 21 and 23.
57. I. G. C. Durie, CBE, "1st Armored Division Artillery On Operation Granby," *Journal of the Royal Artillery* 118, no. 2 (September 1991): 25. At the VII Corps' AAR, the division commander, Major General Rupert Smith, noted that the defending divisions were organized in much greater depth than he had anticipated, hence he found himself having to sort out defending infantry before arriving at the tactical reserves. ARCENT historian's Notes from Corps Commander's After-Action Review, 11 March 1991, 3. This tended to slow the British clearance of the breachhead and delay by some hours the departure of the 1st Infantry Division for the next phase of the operation. See Rhame interview, 6–7.
58. The 2d Armored Cavalry battle has been written about in some detail. It first drew public attention through an extraordinary piece of journalism by Vince Crawley in *Stars and Stripes*, "Minute by Minute, Death by Death: One Unit's Battle Against the Republican Guard," *Stars and Stripes* 49, issue 327, 9 March 1991, 14–16. It has been further examined by a team headed by Colonel Michael D. Krause from the Center of Military History and Defense Advanced Research Projects Agency in a paper titled, "The Battle of 73 Easting, 26 February 1991: A Historical Introduction to a Simulation" (hereafter referred to as Krause, "Battle of 73 Easting"). See, also, Steve Vogel, "A Swift Kick: 2d ACR's Taming of the Guard," in *Army Times*, 5 August 1991, 10–61.
59. HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, 25 February 1991 as of 251430C February 1991, 3. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.)
60. Schwarzkopf, *Doesn't Take a Hero*, 460.
61. HQ, ARCENT, Command Group, (Executive Officer's) Daily Memo, 25 February 1991 (2335C), 2. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.)
62. HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, 25 February 1991, as of 252335 February 1991, 5. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.)
63. Patrick E. Tyler, "Iraq Orders Troops to Leave Kuwait but U.S. Pursues Battlefield Gains: Heavy American Toll in Scud Attack: Administration Says Hussein Must Declare Pullout Himself," *The New York Times*, 26 February 1991, A1, A12.
64. *Ibid.*

65. Message, 260200Z (4 A.M. the 26th) FEB 91, FROM COMUSARCENT MAIN//CMO ARCENT//, [MSGID] ARCENT INTREP 70-91 AS OF 260200Z FEB 91. Message lists indicators "read" throughout the night. A paper prepared by the ARCENT G2, General John Stewart, on J-STARS performance, indicates that as early as 0300 local on the 25th, there were indications of an Iraqi withdrawal from Kuwait City. Appendix H to Joint Surveillance Target Attack Radar System (Joint STARS), Operation Desert Storm (ODS), Operational Evaluation Command (OEC) Summary Report, H-10. Appendix H is an extract from a book put together for Brigadier General Stewart, ARCENT G2, at the close of the ground campaign by members of the Army J-STARS operational detachment.
66. The source document seems to have been an article by Tom Donnelly of the *Army Times*, "The Generals' War: How Commanders Fought the Iraqis . . . and Among Themselves," *Army Times*, 2 March 1992, 8, 16, 18, and an editorial on page 27 of Peter Martin's TV coverage of the story appeared on *CBS Evening News* on 24 February 1992. Martin seems to have used Donnelly's article, then checked it against his sources. Schwarzkopf's own account is in *Doesn't Take a Hero*, 462-63.
67. Donnelly, "The Generals' War," 16. Schwarzkopf, *Doesn't Take a Hero*, 463.
68. HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, 26 February 1991, 6. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.)
69. Ibid., 5. In VII Corps G3 Ops log for 26 February, 1005 hours, item 19, "Re: ARCENT G3 [General Arnold] - CINC WANTS VII CORPS TO CONDUCT COORDINATED ATTACK TO DESTROY RGFC TONIGHT NLNT BMNT 27 FEB."
70. Message, 251800Z FEB 91, FROM COMUSARCENT MAIN, SUBJECT: FRAGO 055 TO OPORD 001 DESERT STORM 001; BOUNDARY CHANGE BETWEEN VII CORPS AND XVIII ABN CORPS. The actual execute order would not be issued until the 26th at 1500Z (1800 local), but once boundaries were issued and objectives were clear to corps commanders, the FRAGO was an afterthought. Schwarzkopf flattered himself that his early morning tirade "had already galvanized Franks." In fact, like Schwarzkopf's knowledge of what was taking place on the battlefield, his tantrum was far behind events in the field.
71. Message, 251942Z FEB 91, FROM COMUSARCENT MAIN, SUBJECT: FRAGO 056 TO OPORD 001 DESERT STORM 001; BOUNDARY CHANGE BETWEEN VII CORPS AND XVIII ABN CORPS.
72. In 1863, just prior to the start of Lee's Gettysburg campaign, the Union Cavalry conducted a raid into the South that involved a raid on the heretofore markedly dominant Confederate Cavalry's encampment at Brandy Station. The raid was highly embarrassing to Confederate Cavalry commander, J. E. B. Stuart. Its effect was political and psychological.
73. See, for example, instructions issued by General Franks at 260725 in HQ, VII Corps, G3 OPS, Daily Staff Journal, 26 February 1991, item 13. Arrival of 1st Infantry Division and 1st Cavalry Division in battle zone as well as detailed management of the battle throughout the 26th and 27th would change the precise maneuvers employed.

74. Significant activities in HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, 26 February 1991, 6. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.) According to Lieutenant Colonel Kendall in a letter to the author (29 October 1992), the CINC's call concerning the boundary change was highly professional in tone, leading Yeosock to conclude the storm had blown over.
75. General Yeosock and General Franks have both told the author that General Yeosock concealed from General Franks the precise nature of General Schwarzkopf's ire, thus leading General Franks to say that he was not aware of General Schwarzkopf's comments until they appeared in the press. General Franks' public response appeared in the Reading, Pennsylvania, *Eagle Times*, 1 March 1992. The column was reprinted in the Department of Defense American Forces Information Services, Current News *Early Bird* for Tuesday, 3 March 1992, 2. The time of General Franks' call has been variously given as the evening of the 25th and morning of the 26th. Reference to General Franks' aide, Major Toby Martinez, confirms a time of 1600 the 26th, which would satisfy the requirement that it follow Schwarzkopf's call to Yeosock the morning of the 26th.
76. Schwarzkopf, *Doesn't Take a Hero*, 463. General Franks has been unable to account for the CINC's perception in discussions with the author. Another possible explanation has to do with a concept discussed at ARCENT that would have had the 1st U.K. open a line of communication by turning south and clearing Wadi al Batin, rather than continuing eastward as they ultimately did. See Brigadier I. G. C. Durie, CBE, "1st Armored Division Artillery on Operation Granby," *Journal of the Road Artillery* 118, no. 2 (September 1991): 27-28. This contingency was never executed.
77. Report from ARCENT LNO to JFC North in HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, 26 February 1991, 3. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.)
78. HQ, 1st Cavalry Division, DTAC, Daily Staff Journal, 26 February 1991, items 17 and 18, indicate General Waller called direct to the 1st Cavalry Division and instructed them to move. Lieutenant Colonel Kendall's (Executive Officer's) Daily Memo indicates the 0920 time.
79. Thomas L. Friedman, "The Rout Bush Wants: A Disorderly, Humiliating Iraqi Surrender Will End Hussein's Power, Officials Believe," *The New York Times*, 27 February 1991, A1, A21.
80. Message, FROM COMUSARCENT MAIN//DT//, MSGID/ SITREP/ USARCENT/G +3/FEB//, PERID/260300Z/TO:270300Z/ASOF:270300, 8, 13, 14.
81. *Ibid.*, 15-16.
82. HQ, 24th Infantry Division (Mech), briefing titled, "Operation Desert Storm Post-Attack Summary," dated 22 March 1991.
83. Many of the divisional records for the period of the ground war were not made available to the author because they have been separated for the various investigations concerning the 24th Division that followed the cease-fire. Many of the

- incidents therefore can only be tracked in reports recorded in higher headquarters. This incident was reflected in the ARCENT and XVIII Corps duty logs, the former on an ARCENT Spot Report form dated 262230C February 1991 (Mobile CP Journal Entry 99), the latter in XVIII Corps TAC Journal Sheet (FB Form 2768), dated 262205C February, Entry 23.
84. HQ, 197th Infantry Brigade (Mechanized) (Separate), AFVE-IN, Memorandum for Members of the Sledgehammer Brigade, Subject: Chronology of the 197th Infantry Brigade (M) Participation in the Gulf War, dated 24 April 1991, 8.
 85. HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, 27 February 1991, 5-6. (Executive Officer's Daily Memos will be filed with General Yeosock's papers at the Army Military History Institute, Carlisle Barracks, Pennsylvania.)
 86. Message, 272200Z FEB 91, FROM CDRXVIIIABNCORPSFWD//G3//, MSGID/SITREP/XVIII ABN CORPS/027/FEB 91/, 4, 6.
 87. HQ, 24th Infantry Division (Mech), briefing titled, "Operation Desert Storm Post-Attack Summary," dated 22 March 1991. CENTCOM planning limit is given in Department of Defense, Conduct of the Persian Gulf War, Final Report to Congress Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personal Benefits Act of 1991 (Public Law 102-25), April 1992, 90.
 88. HQ, 24th Infantry Division (Mech), briefing titled, "Operation Desert Storm Post-Attack Summary," dated 22 March 1991.
 89. Message, FROM CDR 101ST ABN DIV (AASLT) (situation report), DTG 271800C FEB 91.
 90. Ibid. HQ, 101st Aviation Brigade, AFZB-KF-CO, Memorandum for Commander, 101st Airborne Division (Air Assault), Subject: Executive Summary—Operation Desert Shield/Storm, dated 10 June 1991, 11.
 91. HQ, XVIII Airborne Corps, TAC CP, Daily Staff Journal, 26 February 1991, Journal Entries 81, 82, 94. HQ, XVIII Airborne Corps, TAC CP, Daily Staff Journal, 27 February 1991, Journal Entries 6, 8, 12.
 92. HQ, 101st Aviation Brigade, AFZB-KF-CO, Memorandum for Commander, 101st Airborne Division (Air Assault), Subject: Executive Summary—Operation Desert Shield/Storm, dated 10 June 1991, 11.
 93. John H. Cushman, Jr., "War in the Gulf: A Defeat by Any Other Name: The Rules: Experts Back U.S. On Rules of War," 27 February 1991, A1. Schwarzkopf, *Doesn't Take a Hero*, 468.
 94. General Peay to the author. The same issue was raised by pilots in the 3d AD. General Funk instructed them to concentrate on destruction of materiel and to allow the enemy soldiers to escape as they might. General Funk to author.
 95. The question of the effect of such pressure and the administration's efforts to counter it remains to be written. See Steve Coll and William Branigin, "U.S. Scrambled to Shape View of 'Highway of Death,'" *The Washington Post*, 11 March 1991, A-1. Related articles are Randall Richard, "Like Fish in a Barrel," U.S. Pilots Say," *The*

Washington Post, 27 February 1991, A-28. R. W. Apple, "American and British Troops Gird for an Iraqi Last Stand," *The New York Times*, 27 February 1991, A1; and the editorial that day, "Beyond Fury, Cool Calculation" in *The New York Times*, 27 February 1991, A26, which seems to favor the approach the president ultimately took. On the 27th, the date the story of what came to be called the "Highway of Death" broke, *The New York Times* ran an article asserting the right to destroy retreating Iraqi formations. John H. Cushman, Jr., "Experts Back U.S. on Rules of War," *The New York Times*, 27 February 1991, A21.

96. HQ, ARCENT, briefing for Secretary of the Army Michael Stone, section titled, "Summary of the Battle," dated 13 March 1991. Briefing contains G2 slides, as of 1 February (D+15), that show the Tawakalna at 50-74 percent effectiveness, another for 14 February (D+23) showing Tawakalna at 50 percent or less, and a third for G-day showing it restored to 50-74 percent. Battle damage assessment was not the most precise business going on in the G2 world.
97. Principal reference is the VII Corps G2 Engagement Matrix, Tab F to HQ, VII Corps, Assistant Chief of Staff, G2, AETSCB, Memorandum, Subject: The 100-Hour Ground War: The Failed Iraqi Plan, dated 20 April 1991. See also Lieutenant Colonel Peter Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* 72 (February 1992): 26, 29, 34.
98. 2d Armored Cavalry Regiment, Operation Desert Storm, 2ACR Operations Summary, 23 February-1 March 1991, 8. The written VII Corps FRAGO 141-91 had a date/time group of 261400C February 1991. By the time the FRAGO was issued, the attack was ongoing. The same is true of the ARCENT FRAGO 058, issued at 261500Z February 1991. Written orders tend to confirm the business was done electronically.
99. 2d Armored Cavalry Regiment, Operation Desert Storm, 2ACR Operations Summary, 23 February-1 March 1991, 9. Krause, "Battle of 73 Easting," 7.
100. 2d Armored Cavalry Regiment, Operation Desert Storm, 2ACR Operations Summary, 23 February-1 March 1991, 10.
101. Ibid., 11. Vince Crawley, "Minute by Minute, Death by Death: One Unit's Battle Against the Republican Guard," *Stars and Stripes* 49, issue 327, 9 March 1991, 14-16. Steve Vogel, "A Swift Kick: 2d ACR's Taming of the Guard," in *Army Times*, 5 August 1991, 10-61.
102. (Historical Overview, 1st Brigade, 3d Armored Division, in Operation Desert Storm) Activity/Event: Movement from Approximately 10 Kilometers North of the Line of Departure to Vicinity of Phase Line Saigon, Date/Time: 250001CFEB91 to 260630CFEB91, and Activity/Event: Movement from Vicinity Phase Line Saigon to Enemy Contact Approximately 262631CFEB91 PU 659104, Vicinity of Phase Line Tangerine, Date/Time: 260630CFEB91 to 270259CFEB91.
103. (Historical Overview, 1st Brigade, 3d Armored Division, in Operation Desert Storm) Activity/Event: Movement from Vicinity Phase Line Saigon to Enemy Contact Approximately 262631CFEB91 PU 659104, Vicinity of Phase Line Tangerine, Date/Time: 260630CFEB91 to 270259CFEB91.
104. Ibid.

105. (Historical Overview, 1st Brigade, 3d Armored Division, in Operation Desert Storm) Activity/Event: The RFCT (Ready First Combat Team) Continues the Attack Vicinity PL Bullet to Objective Minden, Date/Time: 270300CFEB91 to 280800CFEB91.
106. 2d Brigade, 3d Armored Division History (1st Edition), Operation Desert Shield, December 1990 through 27 February 1991 (262200C February 1992).
107. Quoted in 3d Armored Division, Task Force 5-5 Cav Summary of Events, Report Author: Captain Steven B. Wyman, Unit: Task Force 5-5 Cavalry, Third Armored Division, Activity/Event: Enemy contact of Task Force, Date/Time of Activity/Event: 271900CFEB91 to 272030CFEB91.
106. 3d Armored Division, Historical Report Format, Report/Author: Captain E. Allen Chandler, Jr., Unit: A Troop, 4/7th Cavalry, Activity/Event: Contact with Iraqi Tanks, Date/Time of Activity/Event: 26 February 1991. This same incident was described in "Stalking the Janus-Faced God of War: Two Small Units and the Different Battles They Fought," *U.S. News and World Report*, 20 January 1992, 52-54.
109. HQ, 1st Armored Division, Operation Desert Storm, AETS-KGC, Memorandum for Record, Subject: 1st Armored Division in Operation Desert Storm, 19 April 1991, paragraphs 8 and 9. Memorandum contains 1st Armored Division after-action briefing, as well as written narrative of operations.
110. Memorandum for Commander, 3d Armored Division, Attn: ACofS G3, Subject: Chronological History/Significant Events 16 March 1991, 19. HQ, 1st Armored Division, Operation Desert Storm, AETS-KGC, Memorandum for Record, Subject: 1st Armored Division in Operation Desert Storm, 19 April 1991, paragraph 9.
111. HQ, 1st Armored Division, Operation Desert Storm, AETS-KGC, Memorandum for Record, Subject: 1st Armored Division in Operation Desert Storm, 19 April 1991, paragraph 8. See, also, Kindsvatter, 31.
112. HQ, 1st Armored Division, Operation Desert Storm, AETS-KGC, Memorandum for Record, Subject: 1st Armored Division in Operation Desert Storm, 19 April 1991, paragraph 9. Barton Ballman, "Felled by Friendly Fire: But for Months, the Truth About an Army Corporal's Death Remained Buried," *The Washington Post National Weekly Edition*, 11-17 November 1991, 9-11, provides details of the incident. Ultimately the regimental, squadron, and troop commanders of the 3d Armored Cavalry Regiment units involved in this incident were censured by the commander, U.S. Forces Command, for the incident. Barton Gellman, "Army Reprimands 3 for Combat Death Despite Exoneration by Investigators, Officers Held Responsible for Error in 'Friendly Fire' Case in Iraq," *The Washington Post*, 4 June 1992, A5.
113. HQ, 1st Armored Division, Operation Desert Storm, AETS-KGC, Memorandum for Record, Subject: 1st Armored Division in Operation Desert Storm, 19 April 1991, paragraph 9. See, also, Erica E. Goode, "The Battle of Medina Ridge: A Desert Showdown Between the World's Mightiest Tanks," in *U.S. News and World Report*, 20 January 1992, 55-56. The Award-Winning Staff of *U.S. News and World Report*, *Triumph Without Victory: The Unreported History of the Persian Gulf War* (New York: Times Books, a division of Random House, Inc., 1991), 380-86.

114. 1st Armored Division Operations Briefing, slide titled, "Destruction of Madinah [sic] Armored Division (26-28 February 1991)."
 115. HQ, 1st Armored Division, Operation Desert Storm, AETS-KGC, Memorandum for Record, Subject: 1st Armored Division in Operation Desert Storm, 19 April 1991, paragraph 11.
 116. HQ, 1st Infantry Division (Mechanized), King Khalid Military City, Saudi Arabia, AFZN-CG, Subject: Memorandum for CG, VII (US) Corps, Subject: Operation Desert Shield and Desert Storm Command Report, 19 April 1991, 5.
 117. Brigadier I. G. C. Durie, CBE, "1st Armored Division Artillery on Operation Granby," *Journal of the Royal Artillery* 118, no. 2 (September 1991), 25-28.
 118. HQ, 1st "Tiger Brigade," 2d Armored Division, Actions of the 1st "Tiger Brigade," 2d Armored Division During Operation Desert Shield/Operation Desert Storm, 10 August 1990-1 March 1991, "Narrative," 6. Interview with Colonel John Sylvester titled, "Colonel John Sylvester Report," 6 March 1991 (provided to the author by Colonel Sylvester), 5-9.
 119. The brigade after-action report lists different figures: 181/172 tanks, 148/126 APCs, 40/32 artillery pieces. HQ, 1st "Tiger" Brigade, 2d Armored Division, Actions of the 1st "Tiger Brigade," 2d Armored Division During Operation Desert Shield/Operation Desert Storm, 10 August 1990-1 March 1991, "Statistical Data."
 120. HQ, 24th Infantry Division (M), 262230C February 1991, FRAGO 46 to 24th Infantry Division (M) OPLAN Desert Storm 91-3, PH VI. This document is the order for attack at 0535C (BMNT) the 27th. The order has an on-order mission to advance to Objective Anvil outside of Basrah.
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